

549

Leu Ser Phe Leu Ile Ser Asp Trp Pro Pro Pro Thr Gly Ser Ala Xaa  
 20 25 30

5 His Lys Ile Leu Arg Leu Met Val Val Gln Arg Leu Ser Leu Leu Asp  
 35 40 45

Gln Arg Lys Arg Trp Ser Glu Ala Xaa  
 50 55

10

(2) INFORMATION FOR SEQ ID NO: 361:

15 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 3 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 361:

20 Lys Tyr Xaa  
 1

25 (2) INFORMATION FOR SEQ ID NO: 362:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 32 amino acids

(B) TYPE: amino acid

30 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 362:

35 Trp Ser Ser Ala Ser Ser Ser Trp Val Thr Thr Pro Glu Arg Ile Arg  
 1 5 10 15

Pro Arg Met Asp Thr Leu Pro Val Lys Gly His Phe Leu Ser Met Xaa  
 20 25 30

40

(2) INFORMATION FOR SEQ ID NO: 363:

45

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 28 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 363:

Asp Ile Phe Val Phe Leu Leu Ser Thr Arg Ala Gly Gly Leu Gly Ile  
 1 5 10 15

55 Asn Leu Thr Ala Xaa Asp Thr Val His Phe Leu Xaa  
 20 25

60 (2) INFORMATION FOR SEQ ID NO: 364:

550

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 15 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 364:

Thr Leu Thr Ser Phe Leu Glu Leu Pro Leu Ala Pro Glu Pro Xaa  
 1 5 10 15

## (2) INFORMATION FOR SEQ ID NO: 365:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 34 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 365:

Met His Arg Tyr Ile Thr Phe Phe Lys Cys Phe Arg Ser Val Ile Leu  
 1 5 10 15

Asp Leu Leu Phe Ile Leu Ser Pro Leu Ser Gln Gly Cys Phe Ile Leu  
 20 25 30

Phe Xaa

## (2) INFORMATION FOR SEQ ID NO: 366:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 66 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 366:

Met Phe Gly Phe Ile Phe Leu Leu Leu Ile Phe Cys Ile Xaa Leu Cys  
 1 5 10 15

Ser Arg Thr Leu Ser Thr Phe Ile Pro Lys Leu Val Gly Phe Leu Tyr  
 20 25 30

Trp Lys Phe Ser Ile Asn Leu Ser Leu Leu Leu Thr Leu Ile Lys Lys  
 35 40 45

Lys Lys Lys Lys Lys Lys Thr Pro Arg Gly Gly Pro Gly Xaa Gln Ser  
 50 55 60

Pro Pro  
 65

## (2) INFORMATION FOR SEQ ID NO: 367:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 317 amino acids

551

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 367:

5 Met Pro Gly Leu Gly Arg Pro Arg Gln Ala Arg Trp Thr Leu Met Leu  
    1                  5                  10                  15  
 Leu Leu Ser Thr Ala Met Tyr Gly Ala His Ala Pro Leu Leu Ala Leu  
                   20                  25                  30  
 10 Cys His Val Asp Gly Arg Val Pro Phe Arg Pro Ser Ser Ala Val Leu  
           35                  40                  45  
 Leu Thr Glu Leu Thr Lys Leu Leu Leu Cys Ala Phe Ser Leu Leu Val  
 15          50                  55                  60  
 Gly Trp Gln Ala Trp Pro Gln Gly Pro Pro Pro Trp Arg Gln Ala Ala  
    65                  70                  75                  80  
 20 Pro Phe Ala Leu Ser Ala Leu Leu Tyr Gly Ala Asn Asn Asn Leu Val  
                   85                  90                  95  
 Ile Tyr Leu Gln Arg Tyr Met Asp Pro Ser Thr Tyr Gln Val Leu Ser  
 25                  100                  105                  110  
 Asn Leu Lys Ile Gly Ser Thr Ala Val Leu Tyr Cys Leu Cys Leu Arg  
           115                  120                  125  
 His Arg Leu Ser Val Arg Gln Gly Leu Ala Leu Leu Leu Met Ala  
 30          130                  135                  140  
 Ala Gly Ala Cys Tyr Ala Ala Gly Gly Leu Gln Val Pro Gly Asn Thr  
    145                  150                  155                  160  
 35 Leu Pro Ser Pro Pro Pro Ala Ala Ala Ala Ser Pro Met Pro Leu His  
                   165                  170                  175  
 Ile Thr Pro Leu Gly Leu Leu Leu Leu Ile Leu Tyr Cys Leu Ile Ser  
 40                  180                  185                  190  
 Gly Leu Ser Ser Val Tyr Thr Glu Leu Leu Met Lys Arg Gln Xaa Leu  
           195                  200                  205  
 Pro Leu Ala Leu Gln Asn Leu Phe Leu Tyr Thr Phe Gly Val Leu Leu  
 45          210                  215                  220  
 Asn Leu Gly Leu His Ala Gly Gly Gly Ser Gly Pro Gly Leu Leu Glu  
    225                  230                  235                  240  
 50 Gly Phe Ser Gly Trp Ala Ala Leu Val Val Leu Ser Gln Ala Leu Asn  
                   245                  250                  255  
 Gly Leu Leu Met Ser Ala Val Met Lys His Gly Ser Ser Ile Thr Arg  
                   260                  265                  270  
 55 Leu Phe Val Val Ser Cys Ser Leu Val Val Asn Ala Val Leu Ser Ala  
           275                  280                  285  
 Val Leu Leu Arg Leu Gln Leu Thr Ala Ala Phe Phe Leu Ala Thr Leu  
 60          290                  295                  300

552

Leu Ile Gly Leu Ala Met Arg Leu Tyr Tyr Gly Ser Arg  
 305 310 315

5

(2) INFORMATION FOR SEQ ID NO: 368:

- 10 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 31 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 368:

15 Met Gly Glu Gln Pro His Phe Ser Leu Cys Val Leu Leu Ala Ala Val  
 1 5 10 15

Arg Glu Asp Xaa Asp Pro Xaa Val Phe Pro Cys Cys Phe Leu Xaa  
 20 25 30  
 20

(2) INFORMATION FOR SEQ ID NO: 369:

- 25 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 43 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 369:

30 Met Ser Phe Ile Ala Leu His Pro Leu Leu Pro Glu Ala Ala Leu Gly  
 1 5 10 15

35 Val Pro Gly Gln Ser Pro His Arg Pro Leu Trp Gln Thr Gln Cys Cys  
 20 25 30

Val Ala Pro Pro Gln Pro Arg Ala Glu Phe Xaa  
 35 40

40

(2) INFORMATION FOR SEQ ID NO: 370:

- 45 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 255 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 370:

50 Met Val Thr Ala Leu Thr Leu Leu Ala Phe Pro Leu Leu Leu Leu His  
 1 5 10 15

Ala Glu Arg Ile Ser Leu Val Phe Leu Leu Leu Phe Leu Gln Ser Phe  
 20 25 30

55

Leu Leu Leu His Leu Leu Ala Ala Gly Ile Pro Val Thr Thr Pro Gly  
 35 40 45

60 Pro Phe Thr Val Pro Trp Gln Ala Val Ser Ala Trp Ala Leu Met Ala  
 50 55 60



553

Thr Gln Thr Phe Tyr Ser Thr Gly His Gln Pro Val Phe Pro Ala Ile  
 65 70 75 80  
 5 His Trp His Ala Ala Phe Val Gly Phe Pro Glu Gly His Gly Ser Cys  
 85 90 95  
 Thr Trp Leu Pro Ala Leu Leu Val Gly Ala Asn Thr Phe Ala Ser His  
 10 100 105 110  
 Leu Leu Phe Ala Val Gly Cys Pro Leu Leu Leu Leu Trp Pro Phe Leu  
 115 120 125  
 15 Cys Glu Ser Gln Gly Leu Arg Lys Arg Gln Gln Pro Pro Gly Asn Glu  
 130 135 140  
 Ala Asp Ala Arg Val Arg Pro Glu Glu Glu Glu Glu Pro Leu Met Glu  
 145 150 155 160  
 20 Met Arg Leu Arg Asp Ala Pro Gln His Phe Tyr Ala Ala Leu Leu Gln  
 165 170 175  
 Leu Gly Leu Lys Tyr Leu Phe Ile Leu Gly Ile Gln Ile Leu Ala Cys  
 180 185 190  
 25 Ala Leu Ala Ala Ser Ile Leu Arg Arg His Leu Met Val Trp Lys Val  
 195 200 205  
 Phe Ala Pro Lys Phe Ile Phe Glu Ala Val Gly Phe Ile Val Ser Ser  
 210 215 220  
 Val Gly Leu Leu Leu Gly Ile Ala Leu Val Met Arg Val Asp Gly Ala  
 225 230 235 240  
 35 Val Ser Ser Trp Phe Arg Gln Leu Phe Leu Ala Gln Gln Arg Xaa  
 245 250 255

40 (2) INFORMATION FOR SEQ ID NO: 371:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 371:

Met Xaa Gly Pro Trp Gly Glu Glu Ala Leu Ile Arg Leu Pro Thr Pro  
 1 5 10 15  
 50 Ser Gly Leu Xaa  
 20

55

(2) INFORMATION FOR SEQ ID NO: 372:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 64 amino acids

60 (B) TYPE: amino acid

554

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 372:

5 Met Ala Thr Leu Glu Xaa Asn Gln Arg Glu Val Asp Arg Glu Ile Arg  
 1 5 10 15  
 Ser Leu Leu Leu Trp Phe Leu Leu Cys Glu Ile Val Ser Gly Trp Leu  
 20 25 30  
 10 Cys Pro Glu Gly Pro Trp Phe Ser Gln Gly Cys Gln Ile Tyr Lys Asn  
 35 40 45  
 Leu Ser Ser Ser Ser Ser Tyr Asn Leu Ser Phe Leu Leu Ser Leu Xaa  
 50 55 60  
 15

20

(2) INFORMATION FOR SEQ ID NO: 373:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 40 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 373:

25  
 30 Met Ile His Ser Gly Cys Thr Ser Gln Cys Leu Glu Gly Phe Phe Leu  
 1 5 10 15  
 Ile Phe Leu Leu Asp Phe Asn Pro Val Leu Ala Leu Asp Leu Ile Gly  
 20 25 30  
 35 Ile Met Arg Lys Ala Ser His Xaa  
 35 40

40

(2) INFORMATION FOR SEQ ID NO: 374:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 35 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 374:

45  
 50 Met Val Phe Ser Ala Arg Val Ser Leu Tyr Thr Arg Phe Lys Val Ile  
 1 5 10 15  
 Leu Leu Ser Leu Leu Ile Met Ile Leu His Val Cys Trp Val Trp Val  
 20 25 30  
 55 Ile Leu Xaa  
 35

60

(2) INFORMATION FOR SEQ ID NO: 375:

555

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 11 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 375:

Gly Leu Leu Tyr Ile Met Tyr Cys Asn Ile Xaa  
 1 5 10

10

## (2) INFORMATION FOR SEQ ID NO: 376:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 64 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 376:

20 Met Asn Asn Gly Leu Leu Gln Gln Pro Ser Ala Leu Met Leu Leu Pro  
 1 5 10 15

Cys Arg Pro Val Leu Thr Ser Val Ala Leu Asn Ala Asn Phe Val Ser  
 20 25 30

25

Trp Lys Ser Arg Thr Lys Tyr Thr Ile Thr Pro Val Lys Met Arg Lys  
 35 40 45

30

Ser Gly Gly Arg Asp His Thr Gly Gly Asn Lys Asp Arg Gly Ile Xaa  
 50 55 60

35

## (2) INFORMATION FOR SEQ ID NO: 377:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 19 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 377:

45 Met Arg Lys Gln Arg Leu Val Pro Met Tyr Leu Gly Leu Ile Tyr Ile  
 1 5 10 15

Leu Leu Xaa

50

## (2) INFORMATION FOR SEQ ID NO: 378:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 5 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 378:

60

556

Met Arg Gln His Xaa  
1 5

5

(2) INFORMATION FOR SEQ ID NO: 379:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 17 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 379:

15 Leu Leu Leu Pro Val Leu Ala Ser Ser Val Pro Ser His Ser Ala Thr  
1 5 10 15  
Xaa

20

(2) INFORMATION FOR SEQ ID NO: 380:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 84 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 380:

30 Met Leu Pro Leu Leu Leu Phe Thr Tyr Leu Asn Ser Phe Leu His Gln  
1 5 10 15

Arg Ile Pro Gln Ser Val Arg Ile Leu Gly Ser Leu Val Ala Ile Leu  
20 25 30

35

Leu Val Phe Leu Ile Thr Ala Ile Leu Val Lys Val Gln Leu Asp Ala  
35 40 45

40 Leu Pro Phe Phe Val Ile Thr Met Ile Lys Ile Val Leu Ile Asn Ser  
50 55 60

Phe Gly Ala Ile Leu Gln Gly Ser Leu Phe Gly Leu Ala Gly Leu Leu  
65 70 75 80

45 Pro Ala Ser Xaa

50

(2) INFORMATION FOR SEQ ID NO: 381:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 21 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 381:

60 Met Lys Leu Ser Leu Phe Leu Ile Leu Ser Asp Val Phe Tyr Leu Gly  
1 5 10 15

557

Ser Pro Xaa Thr Xaa  
20

5

(2) INFORMATION FOR SEQ ID NO: 382:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 29 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 382:

10

15

Met Gly Thr Arg Arg Lys Gly Val Ala Trp Leu Ser Leu Ala Pro Leu  
1 5 10 15

Ile Thr Gly Leu Ala Pro Ala His Ile Thr Ala Val Xaa  
20 25

20

(2) INFORMATION FOR SEQ ID NO: 383:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 34 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 383:

25

30

Met Lys Asp Leu Leu Gln Arg Asn Pro Trp Lys Asn Ser Leu Leu Leu  
1 5 10 15

Leu Gln Val Cys Gln Ala Phe Leu Val Cys Ser Leu Thr Gln Leu Ala  
20 25 30

35

Val Xaa

40

(2) INFORMATION FOR SEQ ID NO: 384:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 47 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 384:

45

50

Met Ser Glu Ser His Lys Ile Trp Trp Cys Tyr Arg His Leu Ala Phe  
1 5 10 15

Pro Leu Leu Thr Leu Ile Leu Tyr Pro Ala Thr Leu Gly Arg Ser Val  
20 25 30

55

Phe Cys His Asp Cys Lys Phe Pro Glu Ala Ser Pro Ala Met Xaa  
35 40 45

60

(2) INFORMATION FOR SEQ ID NO: 385:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 25 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 385:

Met Leu Asn Arg Ile Met Val Ala Ser Phe Gly Ala Val Leu Val Gln  
 1 5 10 15

Val Cys Arg Gly Xaa Gly Gln Gly Xaa  
 20 25

## (2) INFORMATION FOR SEQ ID NO: 386:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 68 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 386:

Met Gln Leu Leu Leu Leu Gly Leu Ile Arg Ser Gln Pro Ser Pro Pro  
 1 5 10 15

Pro Ser Leu Cys Leu Met Leu Cys Pro Cys Leu Pro Cys Leu Arg Tyr  
 20 25 30

Ser Pro Phe Val Pro Gln His Pro Cys Pro Leu Pro Leu Asp Leu Cys  
 35 40 45

Leu Ala Gly Cys Ser Ser Leu Ser Val Gln Asp Lys Cys Ser Trp Pro  
 50 55 60

Tyr Pro Ile Xaa  
 65

## (2) INFORMATION FOR SEQ ID NO: 387:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 34 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 387:

Lys Glu Phe Phe Val Phe Leu Phe Val Cys Leu Phe Trp Leu Leu Ser  
 1 5 10 15

Asn Thr Pro Leu Thr Phe Ile Ser Ile Ile Leu Gln Arg Lys Glu Thr  
 20 25 30

Asn Xaa

## (2) INFORMATION FOR SEQ ID NO: 388:

559

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 14 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 388:

Ser Phe Leu Met Val Leu Val Ile Leu Ala Ala Ser Pro Xaa  
 1 5 10

## (2) INFORMATION FOR SEQ ID NO: 389:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 389:

1 5 10

## (2) INFORMATION FOR SEQ ID NO: 390:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 154 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 390:

Met Thr Lys Ala Arg Leu Phe Arg Leu Trp Leu Val Leu Gly Ser Val  
 1 5 10 15

Phe Met Ile Leu Leu Ile Ile Val Tyr Trp Asp Ser Ala Gly Ala Ala  
 20 25 30

His Phe Tyr Leu His Thr Ser Phe Ser Arg Pro His Thr Gly Pro Pro  
 35 40 45

Leu Pro Thr Pro Gly Pro Asp Arg Asp Arg Glu Leu Thr Ala Asp Ser  
 50 55 60

Asp Val Asp Xaa Phe Leu Asp Xaa Phe Leu Ser Ala Gly Val Lys Gln  
 65 70 75 80

Ser Asp Xaa Pro Arg Lys Glu Thr Glu Gln Pro Pro Ala Pro Gly Ser  
 85 90 95

Met Glu Glu Ser Val Arg Xaa Tyr Asp Trp Ser Pro Arg Xaa Ala Arg  
 100 105 110

Arg Thr Gln Thr Arg Ala Gly Ser Xaa Arg Xaa Gly Gly Xaa Cys Cys  
 115 120 125

Gly Ala Ser Ala Pro Xaa Pro Ala Trp Pro Ser Pro Pro Arg Ser Ala  
 130 135 140

560

His Ser Thr Thr Ser Pro Thr Arg Ser Xaa  
145 150

5

(2) INFORMATION FOR SEQ ID NO: 391:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 9 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 391:

10

Met Val Leu Leu Gly Leu Leu Ser Xaa  
1 5

15

(2) INFORMATION FOR SEQ ID NO: 392:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 61 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 392:

20

Met Cys Ile His Val Phe Met Xaa Val Leu Trp Val Leu Phe Leu Leu  
1 5 10 15

30

Asn Pro Leu Cys Thr Gly Leu Trp Pro Leu Xaa Asn Cys Phe Ser Val  
20 25 30

Leu Arg His Ala Asp Trp Val Leu Gly Ala Asp Tyr Lys Gly Glu Glu  
35 40 45

35

Leu Asn Arg His Gln Gly Pro Met Lys Pro Lys Asp Xaa  
50 55 60

40

(2) INFORMATION FOR SEQ ID NO: 393:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 447 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 393:

45

Met Leu Leu Gly Leu Leu Met Ala Ala Cys Phe Thr Phe Cys Leu Ser  
1 5 10 15

50

His Gln Asn Leu Lys Glu Phe Ala Leu Thr Asn Pro Glu Lys Ser Ser  
20 25 30

55

Thr Lys Glu Thr Glu Arg Lys Glu Thr Lys Ala Glu Glu Glu Leu Asp  
35 40 45

Ala Glu Val Leu Glu Val Phe His Pro Thr His Glu Trp Gln Ala Leu  
50 55 60

60



561

Gln Pro Gly Gln Ala Val Pro Ala Gly Ser His Val Arg Leu Asn Leu  
 65 70 75 80  
 5 Gln Thr Gly Glu Arg Glu Ala Lys Leu Gln Tyr Glu Asp Lys Phe Arg  
 85 90 95  
 Asn Asn Leu Lys Gly Lys Arg Leu Asp Ile Asn Thr Asn Thr Tyr Thr  
 100 105 110  
 10 Ser Gln Asp Leu Lys Ser Ala Leu Ala Lys Phe Lys Glu Gly Ala Glu  
 115 120 125  
 Met Glu Ser Ser Lys Glu Asp Lys Ala Arg Gln Ala Glu Val Lys Arg  
 130 135 140  
 15 Leu Phe Arg Pro Ile Glu Glu Leu Lys Lys Asp Phe Asp Glu Leu Asn  
 145 150 155 160  
 Val Val Ile Glu Thr Asp Met Gln Ile Met Val Arg Leu Ile Asn Lys  
 165 170 175  
 Phe Asn Ser Ser Ser Ser Ser Leu Glu Glu Lys Ile Ala Ala Leu Phe  
 180 185 190  
 25 Asp Leu Glu Tyr Tyr Val His Gln Met Asp Asn Ala Gln Asp Leu Leu  
 195 200 205  
 Ser Phe Gly Gly Leu Gln Val Val Ile Asn Gly Leu Asn Ser Thr Glu  
 210 215 220  
 30 Pro Leu Val Lys Glu Tyr Ala Ala Phe Val Leu Gly Ala Ala Phe Ser  
 225 230 235 240  
 Ser Asn Pro Lys Val Gln Val Glu Ala Ile Glu Gly Gly Ala Leu Gln  
 245 250 255  
 35 Lys Leu Leu Val Ile Leu Ala Thr Glu Gln Pro Leu Thr Ala Lys Lys  
 260 265 270  
 40 Lys Val Leu Phe Ala Leu Cys Ser Leu Leu Arg His Phe Pro Tyr Ala  
 275 280 285  
 Gln Arg Gln Phe Leu Lys Leu Gly Gly Leu Gln Val Leu Arg Thr Leu  
 290 295 300  
 45 Val Gln Glu Lys Gly Thr Glu Val Leu Ala Val Arg Val Val Thr Leu  
 305 310 315 320  
 Leu Tyr Asp Leu Val Thr Glu Lys Met Phe Ala Glu Glu Glu Ala Glu  
 325 330 335  
 50 Leu Thr Gln Glu Met Ser Pro Glu Lys Leu Gln Gln Tyr Arg Gln Val  
 340 345 350  
 55 His Leu Leu Pro Gly Leu Trp Glu Gln Gly Trp Cys Glu Ile Thr Ala  
 355 360 365  
 60 His Leu Leu Ala Leu Pro Glu His Asp Ala Arg Glu Lys Val Leu Gln  
 370 375 380

562

Thr Leu Gly Val Leu Leu Thr Thr Cys Arg Asp Arg Tyr Arg Gln Asp  
385 390 395 400

5 Pro Gln Leu Gly Arg Thr Leu Ala Ser Leu Gln Ala Glu Tyr Gln Val  
405 410 415

Leu Ala Ser Leu Glu Leu Gln Asp Gly Glu Asp Gln Gly Tyr Phe Gln  
420 425 430

10 Glu Leu Leu Gly Ser Val Asn Ser Leu Leu Lys Glu Leu Arg Xaa  
435 440 445

15 (2) INFORMATION FOR SEQ ID NO: 394:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 24 amino acids

(B) TYPE: amino acid

20 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 394:

Met Val Ile Ser Tyr Val Thr Phe Thr Pro Val Ser Ala Asp Cys Phe  
1 5 10 15

25 Phe Asn Val Leu Val Cys Phe Xaa  
20

30

(2) INFORMATION FOR SEQ ID NO: 395:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 24 amino acids

35 (B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 395:

40 Glu Leu Leu Phe Leu Leu Ile Ile Ile Leu Gly Glu Ser Leu Ser Asp  
1 5 10 15

Val Ile Leu Leu Ile Cys Phe Xaa  
20

45

(2) INFORMATION FOR SEQ ID NO: 396:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 35 amino acids

50 (B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 396:

55 Met Phe Tyr Trp Gly Gly Leu Ser Phe Tyr Phe Leu Leu Ser Ser Gly  
1 5 10 15

Val Gly Phe Tyr Cys Phe Leu Phe Gly Phe Gly Met Glu Ile Trp Ile  
20 25 30

60

Ala Ala Xaa  
35

5

(2) INFORMATION FOR SEQ ID NO: 397:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 3 amino acids

10

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 397:

Gly Arg Xaa  
15 1

20

(2) INFORMATION FOR SEQ ID NO: 398:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 25 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 398:

Met Lys Leu Ser Leu Leu Ile Leu Thr Leu Met Gln Arg Tyr Phe Arg  
1 5 10 15

30

Thr Ile Thr Asn Ser Leu Cys Lys Xaa  
20 25

35

(2) INFORMATION FOR SEQ ID NO: 399:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 79 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

40

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 399:

Met Pro Ala Val Ser Gly Pro Gly Pro Leu Phe Cys Leu Leu Leu Leu  
1 5 10 15

45

Leu Leu Asp Pro His Ser Pro Glu Thr Gly Cys Pro Pro Leu Arg Arg  
20 25 30

50

Phe Glu Tyr Lys Leu Ser Phe Lys Gly Pro Arg Leu Ala Leu Pro Gly  
35 40 45

Ala Gly Ile Pro Phe Trp Ser His His Gly Gly Glu Gly Gln Gly Trp  
50 55 60

55

Gly Pro Leu Cys Pro Gly Ser Leu Lys Val Leu Glu Gly Leu Xaa  
65 70 75

60

(2) INFORMATION FOR SEQ ID NO: 400:

564

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 21 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 400:

Met Lys Val Phe Leu Ser Met Pro Phe Leu Val Leu Phe Gln Ser Leu  
 1 5 10 15  
 Ile Gln Glu Asp Xaa  
 20

## (2) INFORMATION FOR SEQ ID NO: 401:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 257 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 401:

Met Ala Ala Leu Thr Ser His Leu Gln Asn Gln Ser Asn Asn Ser Asn  
 1 5 10 15  
 Trp Asn Leu Arg Thr Arg Ser Lys Cys Lys Lys Asp Val Phe Met Pro  
 20 25 30  
 Pro Ser Ser Ser Ser Glu Leu Gln Glu Ser Arg Gly Leu Ser Asn Phe  
 35 40 45  
 Thr Ser Thr His Leu Leu Leu Lys Glu Asp Glu Gly Val Asp Asp Val  
 50 55 60  
 Asn Phe Arg Lys Val Arg Lys Pro Lys Gly Lys Val Thr Ile Leu Lys  
 65 70 75 80  
 Gly Ile Pro Ile Lys Lys Thr Lys Lys Gly Cys Arg Lys Ser Cys Ser  
 85 90 95  
 Gly Phe Val Xaa Ser Asp Ser Lys Arg Glu Ser Val Cys Asn Lys Ala  
 100 105 110  
 Asp Ala Glu Ser Glu Pro Val Ala Gln Lys Ser Gln Leu Asp Arg Thr  
 115 120 125  
 Val Cys Ile Ser Asp Ala Gly Ala Cys Gly Glu Thr Leu Ser Val Thr  
 130 135 140  
 Ser Glu Glu Asn Ser Leu Val Lys Lys Lys Glu Arg Ser Leu Ser Ser  
 145 150 155 160  
 Gly Ser Asn Phe Cys Ser Glu Gln Lys Thr Ser Gly Ile Ile Asn Lys  
 165 170 175  
 Phe Cys Ser Ala Lys Asp Ser Glu His Asn Glu Lys Tyr Glu Asp Thr  
 180 185 190  
 Phe Leu Glu Ser Glu Glu Ile Gly Thr Lys Val Glu Val Val Glu Arg

565

[illegible]

15

(2) INFORMATION FOR SEQ ID NO: 402:

20 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 424 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 402:

25	Met	Glu	Lys	Gln	Cys	Cys	Ser	His	Pro	Val	Ile	Cys	Ser	Leu	Ser	Thr	
	1				5					10						15	
	Met	Tyr	Thr	Phe	Leu	Leu	Gly	Ala	Ile	Phe	Ile	Ala	Leu	Ser	Ser	Ser	
				20					25					30			
30	Arg	Ile	Leu	Leu	Val	Lys	Tyr	Ser	Ala	Asn	Glu	Glu	Asn	Lys	Tyr	Asp	
			35					40					45				
	Tyr	Leu	Pro	Thr	Thr	Val	Asn	Val	Cys	Ser	Glu	Leu	Val	Lys	Leu	Val	
35		50					55					60					
	Phe	Cys	Val	Leu	Val	Ser	Phe	Cys	Val	Ile	Lys	Lys	Asp	His	Gln	Ser	
	65					70					75					80	
40	Arg	Asn	Leu	Lys	Tyr	Ala	Ser	Trp	Lys	Glu	Phe	Ser	Asp	Phe	Met	Lys	
					85					90					95		
	Trp	Ser	Ile	Pro	Ala	Phe	Leu	Tyr	Phe	Leu	Asp	Asn	Leu	Ile	Val	Phe	
				100					105					110			
45	Tyr	Val	Leu	Ser	Tyr	Leu	Gln	Pro	Ala	Met	Ala	Val	Ile	Phe	Ser	Asn	
		115					120						125				
	Phe	Ser	Ile	Ile	Thr	Thr	Ala	Leu	Leu	Phe	Arg	Ile	Val	Leu	Lys	Xaa	
50		130					135					140					
	Arg	Leu	Asn	Trp	Ile	Gln	Trp	Ala	Ser	Leu	Leu	Thr	Leu	Phe	Leu	Ser	
	145					150					155					160	
55	Ile	Val	Ala	Leu	Thr	Ala	Gly	Thr	Lys	Thr	Leu	Gln	His	Asn	Leu	Ala	
					165					170					175		
	Gly	Arg	Gly	Phe	His	His	Asp	Ala	Phe	Phe	Ser	Pro	Ser	Asn	Ser	Cys	
				180					185					190			

60

566

Leu Leu Phe Arg Asn Glu Cys Pro Arg Lys Asp Asn Cys Thr Ala Lys  
 195 200 205  
 5 Glu Trp Thr Phe Pro Glu Ala Lys Trp Asn Thr Thr Ala Arg Val Phe  
 210 215 220  
 Ser His Ile Arg Leu Gly Met Gly His Val Leu Ile Ile Val Gln Cys  
 225 230 235 240  
 10 Phe Ile Ser Ser Met Ala Asn Ile Tyr Asn Glu Lys Ile Leu Lys Glu  
 245 250 255  
 Gly Asn Gln Leu Thr Glu Xaa Ile Phe Ile Gln Asn Ser Lys Leu Tyr  
 260 265 270  
 15 Phe Phe Gly Ile Leu Phe Asn Gly Leu Thr Leu Gly Leu Gln Arg Ser  
 275 280 285  
 Asn Arg Asp Gln Ile Lys Asn Cys Gly Phe Phe Tyr Gly His Ser Ala  
 290 295 300  
 Phe Ser Val Ala Leu Ile Phe Val Thr Ala Phe Gln Gly Leu Ser Val  
 305 310 315 320  
 25 Ala Phe Ile Leu Lys Phe Leu Asp Asn Met Phe His Val Leu Met Ala  
 325 330 335  
 Gln Val Thr Thr Val Ile Ile Thr Thr Val Ser Val Leu Val Phe Asp  
 340 345 350  
 30 Phe Arg Pro Ser Leu Glu Phe Phe Leu Glu Ala Pro Ser Val Leu Leu  
 355 360 365  
 Ser Ile Phe Ile Tyr Asn Ala Ser Lys Pro Gln Val Pro Glu Tyr Ala  
 370 375 380  
 Pro Arg Gln Glu Arg Ile Arg Asp Leu Ser Gly Asn Leu Trp Glu Arg  
 385 390 395 400  
 40 Ser Ser Gly Asp Gly Glu Glu Leu Glu Arg Leu Thr Lys Pro Lys Ser  
 405 410 415  
 Asp Glu Ser Asp Glu Asp Thr Phe  
 420  
 45

(2) INFORMATION FOR SEQ ID NO: 403:

50

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 33 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 403:

55

Met Trp Gly Gln Gly Ser Gln Lys Ser His Phe Ser Asp Leu Val Phe  
 1 5 10 15

60

Gly Val Arg Glu Leu Cys Ala Gln Pro Ser Asp Pro Gly Ser Pro His  
 20 25 30

567

Xaa

5

(2) INFORMATION FOR SEQ ID NO: 404:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 80 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 404:

15 Met Val Gln His Ile Gln Pro Ala Ala Leu Ser Leu Leu Ala Gln Trp  
 1 5 10 15

Ser Thr Leu Val Gln Glu Leu Glu Ala Ala Leu Gln Leu Ala Phe Tyr  
 20 25 30

20 Pro Asp Ala Val Glu Glu Trp Leu Glu Glu Asn Val His Pro Ser Leu  
 35 40 45

25 Gln Arg Leu Gln Xaa Leu Leu Gln Asp Leu Ser Glu Val Ser Ala Pro  
 50 55 60

Pro Leu Pro Pro Thr Ser Pro Gly Arg Asp Val Ala Gln Asp Pro Xaa  
 65 70 75 80

30

35 (2) INFORMATION FOR SEQ ID NO: 405:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 95 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 405:

45 Met Leu Asn Gln Gly Tyr Ile Arg Lys Ile Ile Leu Ile Ile Ile Leu  
 1 5 10 15

Gly Ser Phe Ser Ser Pro Lys Lys Ala Ile Leu Met Gly Phe Gln Asn  
 20 25 30

50 Gln Lys Lys Ala Leu Asn Glu Glu Gln Thr Thr Gly Val Pro Met Ser  
 35 40 45

Ile Ser Gly Lys Leu Arg Pro Ser Arg Ser Leu Asp Phe Val Gln Pro  
 50 55 60

55 Pro Arg Phe Gln Ser Gln Gln Pro Ser Ala Val Val Asp Arg Arg Gly  
 65 70 75 80

Phe Xaa Xaa Lys Ala Ala Arg Gly Gln Glu Phe Ser Glu Ser Xaa  
 85 90 95

60

568

(2) INFORMATION FOR SEQ ID NO: 406:

5

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 257 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

10

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 406:

Met Arg Gly Pro Ala Gln Ala Lys Leu Leu Pro Gly Ser Ala Ile Gln  
1 5 10 15

15

Ala Leu Val Gly Leu Ala Arg Pro Leu Val Leu Ala Leu Leu Val  
20 25 30

Ser Ala Ala Leu Ser Ser Val Val Ser Arg Thr Asp Ser Pro Ser Pro  
35 40 45

20

Thr Val Leu Asn Ser His Ile Ser Thr Pro Asn Val Asn Ala Leu Thr  
50 55 60

25

His Glu Asn Gln Thr Lys Pro Ser Ile Ser Gln Ile Ser Thr Thr Leu  
65 70 75 80

Pro Pro Thr Thr Ser Thr Lys Lys Ser Gly Gly Ala Ser Val Val Pro  
85 90 95

30

His Pro Ser Pro Thr Pro Leu Ser Gln Glu Glu Ala Asp Asn Asn Glu  
100 105 110

Asp Pro Ser Ile Glu Glu Glu Asp Leu Leu Met Leu Asn Ser Ser Pro  
115 120 125

35

Ser Thr Ala Lys Asp Thr Leu Asp Asn Gly Asp Tyr Gly Glu Pro Asp  
130 135 140

40

Tyr Asp Trp Thr Thr Gly Pro Arg Asp Asp Asp Glu Ser Asp Asp Thr  
145 150 155 160

Leu Glu Glu Asn Arg Gly Tyr Met Glu Ile Glu Gln Ser Val Lys Ser  
165 170 175

45

Phe Lys Met Pro Ser Ser Asn Ile Glu Glu Glu Asp Ser His Phe Phe  
180 185 190

Phe His Leu Ile Ile Phe Ala Phe Cys Ile Ala Val Val Tyr Ile Thr  
195 200 205

50

Tyr His Asn Lys Arg Lys Ile Phe Leu Leu Val Gln Ser Arg Lys Trp  
210 215 220

55

Arg Asp Gly Leu Cys Ser Lys Thr Val Glu Tyr His Arg Leu Asp Gln  
225 230 235 240

Asn Val Asn Glu Ala Met Pro Ser Leu Lys Ile Thr Asn Asp Tyr Ile  
245 250 255

60

Phe



## (2) INFORMATION FOR SEQ ID NO: 407:

5

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 623 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

10

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 407:

Met Phe Met Arg Ile Ala Lys Ala Tyr Ala Ala Leu Thr Asp Glu Glu  
 1 5 10 15  
 Ser Arg Lys Asn Trp Glu Glu Phe Gly Asn Pro Asp Gly Pro Gln Ala  
 20 25 30  
 Thr Ser Phe Gly Ile Ala Leu Pro Ala Trp Ile Val Asp Gln Lys Asn  
 35 40 45  
 Ser Ile Leu Val Leu Leu Val Tyr Gly Leu Ala Phe Met Val Ile Leu  
 50 55 60  
 Pro Val Val Val Gly Ser Trp Trp Tyr Arg Ser Ile Arg Tyr Ser Gly  
 65 70 75 80  
 Asp Gln Ile Leu Ile Arg Thr Thr Gln Ile Tyr Thr Tyr Phe Val Tyr  
 85 90 95  
 Lys Thr Arg Asn Met Asp Met Lys Arg Leu Ile Met Val Leu Xaa Gly  
 100 105 110  
 Ala Ser Glu Phe Asp Pro Gln Tyr Asn Lys Asp Ala Thr Ser Arg Pro  
 115 120 125  
 Thr Asp Asn Ile Leu Ile Pro Gln Leu Ile Arg Glu Ile Gly Ser Ile  
 130 135 140  
 Asn Leu Lys Lys Asn Glu Pro Pro Leu Thr Cys Pro Tyr Ser Leu Lys  
 145 150 155 160  
 Ala Arg Val Leu Leu Leu Ser His Leu Ala Arg Met Lys Ile Pro Glu  
 165 170 175  
 Thr Leu Glu Glu Asp Gln Gln Phe Met Leu Lys Lys Cys Pro Ala Leu  
 180 185 190  
 Leu Gln Glu Met Val Asn Val Ile Cys Gln Leu Ile Val Met Ala Arg  
 195 200 205  
 Asn Arg Glu Glu Arg Glu Phe Arg Ala Pro Thr Leu Ala Ser Leu Glu  
 210 215 220  
 Asn Cys Met Lys Leu Ser Gln Met Ala Val Gln Gly Leu Gln Gln Phe  
 225 230 235 240  
 Lys Ser Pro Leu Leu Gln Leu Pro His Ile Glu Glu Asp Asn Leu Arg  
 245 250 255  
 Arg Val Ser Asn His Lys Lys Tyr Lys Ile Lys Thr Ile Gln Asp Leu

570

	260	265	270
	Val Ser Leu Lys Glu Ser Asp Arg His Thr Leu Leu His Phe Leu Glu		
	275	280	285
5	Asp Glu Lys Tyr Glu Glu Val Met Ala Val Leu Gly Ser Phe Pro Tyr		
	290	295	300
10	Val Thr Met Asp Ile Lys Ser Gln Val Leu Asp Asp Glu Asp Ser Asn		
	305	310	315
	Asn Ile Thr Val Gly Ser Leu Val Thr Val Leu Val Lys Leu Thr Arg		
	325	330	335
15	Gln Thr Met Ala Glu Val Phe Glu Lys Glu Gln Ser Ile Cys Ala Ala		
	340	345	350
	Glu Glu Gln Pro Ala Glu Asp Gly Gln Gly Glu Thr Asn Lys Asn Arg		
	355	360	365
20	Thr Lys Gly Gly Trp Gln Gln Lys Ser Lys Gly Pro Lys Lys Thr Ala		
	370	375	380
25	Lys Ser Lys Lys Lys Lys Pro Leu Lys Lys Lys Pro Thr Pro Val Leu		
	385	390	395
	Leu Pro Gln Ser Lys Gln Gln Lys Gln Lys Gln Ala Asn Gly Val Val		
	405	410	415
30	Gly Asn Glu Ala Ala Val Lys Glu Asp Glu Glu Glu Val Ser Asp Lys		
	420	425	430
	Gly Ser Asp Ser Glu Glu Glu Glu Thr Asn Arg Asp Ser Gln Ser Glu		
	435	440	445
35	Lys Asp Asp Gly Ser Asp Arg Asp Ser Asp Arg Glu Gln Asp Glu Lys		
	450	455	460
40	Gln Asn Lys Asp Asp Glu Ala Glu Trp Gln Glu Leu Gln Gln Ser Ile		
	465	470	475
	Gln Arg Lys Glu Arg Ala Leu Leu Glu Thr Lys Ser Lys Ile Thr His		
	485	490	495
45	Pro Val Tyr Ser Leu Tyr Phe Pro Glu Glu Lys Gln Glu Trp Trp Trp		
	500	505	510
	Leu Tyr Ile Ala Asp Arg Lys Glu Gln Thr Leu Ile Ser Met Pro Tyr		
	515	520	525
50	His Val Cys Thr Leu Lys Asp Thr Glu Glu Val Glu Leu Lys Phe Pro		
	530	535	540
55	Ala Pro Gly Lys Pro Gly Asn Tyr Gln Tyr Thr Val Phe Leu Arg Ser		
	545	550	555
	Asp Ser Tyr Met Gly Leu Asp Gln Ile Lys Pro Leu Glu Val Xaa Lys		
	565	570	575
60	Phe Met Arg Leu Lys Pro Val Pro Glu Asn His Pro Gln Trp Asp Thr		

571

580

585

590

Ala Ile Glu Gly Asp Glu Asp Gln Glu Asp Ser Glu Gly Phe Glu Asp  
595 600 605

Ser Phe Glu Gly Gly Arg Gly Arg Glu Glu Gly Arg Trp Trp Thr  
610 615 620

(2) INFORMATION FOR SEQ ID NO: 408:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 190 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 408:

Met Lys Ala Ser Gln Cys Cys Cys Cys Leu Ser His Leu Leu Ala Ser  
1 5 10 15

Val Leu Leu Leu Leu Leu Leu Pro Glu Leu Ser Gly Xaa Leu Xaa Val  
20 25 30

Leu Leu Gln Ala Ala Glu Ala Ala Pro Gly Leu Gly Pro Pro Asp Pro  
35 40 45

Arg Pro Arg Thr Leu Pro Pro Leu Pro Pro Gly Pro Thr Pro Ala Gln  
50 55 60

Gln Pro Gly Arg Gly Leu Ala Glu Ala Ala Gly Pro Arg Gly Ser Glu  
65 70 75 80

Gly Gly Asn Gly Ser Asn Pro Val Ala Gly Leu Glu Thr Asp Asp His  
85 90 95

Gly Gly Lys Ala Gly Glu Gly Ser Val Gly Gly Gly Leu Ala Val Ser  
100 105 110

Pro Asn Pro Gly Asp Lys Pro Met Thr Gln Arg Ala Leu Thr Val Leu  
115 120 125

Met Val Val Ser Gly Ala Val Leu Val Tyr Phe Val Val Arg Thr Val  
130 135 140

Arg Met Arg Arg Arg Asn Arg Lys Thr Arg Arg Tyr Gly Val Leu Asp  
145 150 155 160

Thr Asn Ile Glu Asn Met Glu Leu Thr Pro Leu Glu Gln Asp Asp Glu  
165 170 175

Asp Asp Asp Asn Thr Leu Phe Asp Ala Asn His Pro Arg Arg  
180 185 190

(2) INFORMATION FOR SEQ ID NO: 409:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 179 amino acids

572

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 409:

5 Met Ser Pro Ser Gly Arg Leu Cys Leu Leu Thr Ile Val Gly Leu Ile  
 1 5 10 15  
 Leu Pro Thr Arg Gly Gln Thr Leu Lys Asp Thr Thr Ser Ser Ser Ser  
 20 25 30  
 10 Ala Asp Ser Thr Ile Met Asp Ile Gln Val Pro Thr Arg Ala Pro Asp  
 35 40 45  
 Ala Val Tyr Thr Gln Leu Gln Pro Thr Ser Pro Thr Pro Thr Trp Pro  
 15 50 55 60  
 Ala Asp Glu Thr Pro Gln Pro Gln Thr Gln Thr Gln Gln Leu Glu Gly  
 65 70 75 80  
 20 Thr Asp Gly Pro Leu Val Thr Asp Pro Glu Thr His Lys Ser Thr Lys  
 85 90 95  
 Ala Ala His Pro Thr Asp Asp Thr Thr Thr Leu Ser Glu Arg Pro Ser  
 100 105 110  
 25 Pro Ser Thr Asp Val Gln Thr Asp Pro Gln Thr Leu Lys Pro Ser Gly  
 115 120 125  
 Phe His Glu Asp Asp Pro Phe Phe Tyr Asp Glu His Thr Leu Arg Lys  
 30 130 135 140  
 Arg Gly Leu Leu Val Ala Ala Val Leu Phe Ile Thr Gly Ile Ile Ile  
 145 150 155 160  
 35 Leu Thr Ser Gly Lys Cys Arg Gln Leu Ser Arg Leu Cys Arg Asn His  
 165 170 175  
 Cys Arg Xaa

40

(2) INFORMATION FOR SEQ ID NO: 410:

45

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 14 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 410:

50

Met Phe Lys Cys Leu Gln Thr Thr Phe Leu Phe Ile Xaa Xaa  
 1 5 10

55

(2) INFORMATION FOR SEQ ID NO: 411:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 232 amino acids

(B) TYPE: amino acid

60

573

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 411:

5 Met Leu Ala Gly Lys Leu Ile Pro Val His Gln Val Arg Gly Leu Lys  
 1 5 10 15  
 Glu Lys Ile Val Arg Ser Phe Glu Val Ser Pro Asp Gly Ser Phe Leu  
 20 25 30  
 10 Leu Ile Asn Gly Ile Ala Gly Tyr Leu His Leu Leu Ala Met Lys Thr  
 35 40 45  
 Lys Glu Leu Ile Gly Ser Met Lys Ile Asn Gly Arg Val Ala Ala Ser  
 50 55 60  
 15 Thr Phe Ser Ser Asp Ser Lys Lys Val Tyr Ala Ser Ser Gly Asp Gly  
 65 70 75 80  
 Glu Val Tyr Val Trp Asp Val Asn Ser Arg Lys Cys Leu Asn Arg Phe  
 85 90 95  
 Val Asp Glu Gly Ser Leu Tyr Gly Leu Ser Ile Ala Thr Ser Arg Asn  
 100 105 110  
 25 Gly Gln Tyr Val Ala Cys Gly Ser Asn Cys Gly Val Val Asn Ile Tyr  
 115 120 125  
 Asn Gln Asp Ser Cys Leu Gln Glu Thr Asn Pro Lys Pro Ile Lys Ala  
 130 135 140  
 30 Ile Met Asn Leu Val Thr Gly Val Thr Ser Leu Thr Phe Asn Pro Thr  
 145 150 155 160  
 Thr Glu Ile Leu Ala Ile Ala Ser Glu Lys Met Lys Glu Ala Val Arg  
 165 170 175  
 35 Leu Val His Leu Pro Ser Cys Thr Val Phe Ser Asn Phe Pro Val Ile  
 180 185 190  
 Lys Asn Lys Asn Ile Ser His Val His Thr Met Asp Phe Ser Pro Arg  
 195 200 205  
 Ser Gly Tyr Phe Ala Leu Gly Asn Glu Lys Gly Lys Ala Leu Met Tyr  
 210 215 220  
 45 Arg Leu His His Tyr Ser Asp Phe  
 225 230

50

(2) INFORMATION FOR SEQ ID NO: 412:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 54 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 412:

60 Ile Leu Leu Cys Ser Trp Pro Thr Gly Leu Val Gly Gly Arg Asp Pro  
 1 5 10 15

574

Gly Ser Ser Arg Gly Ser Ser Ala Ser Leu Thr Pro Ser Pro Gly Arg  
                   20                  25                  30  
 5 Gln Pro Cys Ser Arg Arg Arg Gly Tyr Ser Val Gly Arg Arg Ser Ser  
                   35                  40                  45  
 Pro Pro Asp Gly Ser Xaa  
                   50

10

(2) INFORMATION FOR SEQ ID NO: 413:

15 (i) SEQUENCE CHARACTERISTICS:  
           (A) LENGTH: 33 amino acids  
           (B) TYPE: amino acid  
           (D) TOPOLOGY: linear  
 20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 413:

Met Ser Leu Gln Ser Asn Ala Trp Ser Lys Xaa Leu Phe Ile Val Phe  
   1                  5                  10                  15  
 Leu Phe Leu Arg Val Leu Phe Lys Thr Gly Val Ser Ser Glu Glu Ser  
 25                  20                  25                  30  
 Xaa

30

(2) INFORMATION FOR SEQ ID NO: 414:

35 (i) SEQUENCE CHARACTERISTICS:  
           (A) LENGTH: 219 amino acids  
           (B) TYPE: amino acid  
           (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 414:

40 Met Ala Val Val Leu Leu Ala Asn Leu Ala Gln Gly Asp Ser Leu Ala  
   1                  5                  10                  15  
 Ala Arg Ala Ile Ala Val Gln Lys Gly Ser Ile Gly Asn Leu Leu Gly  
                   20                  25                  30  
 45 Phe Leu Glu Asp Ser Leu Ala Ala Thr Gln Phe Gln Gln Ser Gln Ala  
                   35                  40                  45  
 Ser Leu Leu His Met Gln Asn Pro Pro Phe Glu Pro Xaa Ser Val Asp  
 50                  50                  55                  60  
 Met Met Arg Arg Ala Ala Arg Ala Leu Leu Ala Leu Ala Lys Val Asp  
                   65                  70                  75                  80  
 55 Glu Asn His Ser Glu Phe Thr Leu Tyr Glu Ser Arg Leu Leu Asp Ile  
                   85                  90                  95  
 Ser Val Ser Pro Leu Met Asn Ser Xaa Val Ser Gln Val Ile Cys Asp  
                   100                  105                  110

60

--

575

Val Leu Phe Leu Xaa Trp Pro Val Met Thr Ala Val Gly His Leu Pro  
 115 120 125

5 Pro Pro Cys Val Cys Ala Cys Val Glu Asn Leu Glu Thr Asp Cys Cys  
 130 135 140

Pro Leu Phe Met Gln Asn His Leu Arg Ile Gln Phe Thr Leu Cys Cys  
 145 150 155 160

10 Pro Ala Ser Pro Leu Gly Lys Ser Leu Ser Cys Phe Ser Leu Leu Leu  
 165 170 175

Pro Pro Pro Leu Pro Pro Ser Pro His Ala Phe Leu Phe Leu Val Leu  
 180 185 190

15 Thr Leu Leu Pro Ser Gly Pro Tyr Pro Thr Leu Phe Glu Lys Thr Lys  
 195 200 205

20 Leu Cys Leu His Arg Arg Leu Phe Leu Phe Xaa  
 210 215

25 (2) INFORMATION FOR SEQ ID NO: 415:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 51 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 415:

Met Leu Pro Asp Glu Ser Phe Gly Leu Leu Leu Ser Ile Pro Ser Leu  
 1 5 10 15

35 Thr Pro Ser Ala Ala Ala Pro Ser Phe Cys Val His Leu Met Gln Ala  
 20 25 30

Ser Arg Ser Ser Lys Arg Ala Ser His Val Pro Val His Leu Leu Trp  
 35 40 45

40 Gly Asp Xaa  
 50

45 (2) INFORMATION FOR SEQ ID NO: 416:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 50 amino acids

50 (B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 416:

Met Arg Pro Gly Ser Phe Ser Phe Ile Ala Phe Leu Ala Thr Glu Val  
 1 5 10 15

Ser Ser Cys Phe Pro Gly Arg Pro Asp Cys Xaa Thr Gly Met Trp Leu  
 20 25 30

60 Leu Gln Leu Gln Lys Lys Gln Arg Thr Leu Leu Ala Met Ala Pro Arg

576

35

40

45

Arg Xaa  
50

5

(2) INFORMATION FOR SEQ ID NO: 417:

10

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 70 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 417:

15

Asp Arg Pro Cys Pro Ser Ser Leu Trp Lys Val Phe Pro Leu Leu Leu  
1 5 10 15

20

Leu Leu Met Arg Leu Phe Pro Leu Pro Val Pro Gly Asn Gln Arg Ala  
20 25 30

Xaa Leu Pro His Pro Phe Xaa Ala Pro Arg Leu Pro Cys Leu Leu Cys  
35 40 45

25

Leu Cys Thr Gln Gln Phe Xaa Val Cys Ser His Tyr Leu Pro Ala Gly  
50 55 60

Tyr Arg Val Asn Ser Xaa  
65 70

30

(2) INFORMATION FOR SEQ ID NO: 418:

35

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 40 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 418:

40

Met His Glu Lys Ala Trp Asn Leu Ile Leu Leu Trp Trp Leu Ser Leu  
1 5 10 15

45

Asp Leu Leu Gly Val Ala Lys Thr Ala Met Trp Ala Gln Trp Cys Gly  
20 25 30

Leu Asn Asp His Lys Gly Lys Xaa  
35 40

50

(2) INFORMATION FOR SEQ ID NO: 419:

55

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 22 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 419:

60

Met Ala Phe Val Leu Leu Xaa Cys Phe Val Xaa Leu Gln Ser Ser Xaa



577

1                    5                    10                    15  
 Gly Arg Ala Val Gln Xaa  
                     20

5

(2) INFORMATION FOR SEQ ID NO: 420:

10

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 33 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 420:

15

Met Phe Ser Leu Leu Trp Leu Val Cys Val Pro Ser Asn Ser Ser Val  
   1                    5                    10                    15

20

Ala Asn Val Thr Ala Ser Arg Gly Gly Val Phe Lys Arg Ser Leu Gly  
                     20                    25                    30

His Glu Gly Phe Ser Xaa  
                     35

25

(2) INFORMATION FOR SEQ ID NO: 421:

30

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 35 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 421:

35

Lys Trp Leu Leu Phe Ile Phe Leu Leu Cys Leu Gln Leu Val Asn Ala  
   1                    5                    10                    15

40

Leu Leu Ser Leu Phe Gln Glu Arg Phe Val His Cys Pro Ala Arg Phe  
                     20                    25                    30

Val Ser Xaa  
                     35

45

(2) INFORMATION FOR SEQ ID NO: 422:

50

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 32 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 422:

55

Met Leu Leu Phe Leu Ser Ile Thr Asn Ser Leu Ser Phe Ile Ser Val  
   1                    5                    10                    15

Asp Lys Pro Phe Gly Gln Ser Glu Asp Val Cys Pro Val Ile Ser Xaa  
                     20                    25                    30

60

## 5 (2) INFORMATION FOR SEQ ID NO: 423:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 127 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

10

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 423:

Met Glu Phe Leu Phe Asn Lys Thr Gly Trp Ala Phe Ala Ala Leu Cys  
 1 5 10 15

15

Phe Val Leu Ala Met Thr Ser Gly Gln Met Trp Asn His Ile Arg Gly  
 20 25 30

20

Pro Pro Tyr Ala His Lys Asn Pro His Thr Gly His Val Asn Tyr Ile  
 35 40 45

His Gly Ser Ser Gln Ala Gln Phe Val Ala Glu Thr His Ile Val Leu  
 50 55 60

25

Leu Phe Asn Gly Gly Val Thr Leu Gly Met Val Leu Leu Cys Glu Ala  
 65 70 75 80

Ala Thr Ser Asp Met Asp Ile Gly Lys Arg Lys Ile Met Cys Val Ala  
 85 90 95

30

Gly Ile Gly Leu Val Val Leu Phe Phe Ser Trp Met Leu Ser Ile Phe  
 100 105 110

35

Arg Ser Lys Tyr His Gly Tyr Pro Tyr Ser Phe Leu Met Ser Xaa  
 115 120 125

## 40 (2) INFORMATION FOR SEQ ID NO: 424:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 69 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

45

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 424:

Met Thr Trp His Ser Arg Glu Ser Phe Xaa Leu Leu Arg Val Val Ala  
 1 5 10 15

50

Pro Ser Gln Ala Pro Gly Met Gln Val Ser Pro Ser Gln Arg Ala Trp  
 20 25 30

Arg Arg Pro Leu His Arg Cys His Val Ala Ala Pro Arg Pro His His  
 35 40 45

55

Phe Ala Phe Phe Arg Asn Pro Phe Ser Trp Ser Phe Ile Lys Leu Leu  
 50 55 60

60

Tyr Arg Tyr Leu Xaa  
 65

## (2) INFORMATION FOR SEQ ID NO: 425:

5

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 92 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

10

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 425:

Met Gly Leu Lys Leu Asn Gly Arg Tyr Ile Ser Leu Ile Leu Ala Val  
 1 5 10 15

Gln Ile Ala Tyr Leu Val Gln Ala Val Arg Ala Ala Gly Lys Cys Asp  
 20 25 30

Ala Val Phe Lys Gly Phe Ser Asp Cys Leu Leu Lys Leu Gly Asp Thr  
 35 40 45

20

Trp Pro Thr Thr Arg Ser Leu Gly Arg Gln Asp Glu His Gln Asp Arg  
 50 55 60

25

Val His Ile Leu Gly Gly Phe Pro Gln Leu His Gly His Ser Pro Tyr  
 65 70 75 80

Gly Leu Pro Gly Arg Gly Glu Arg Tyr Val Gly Xaa  
 85 90

30

## (2) INFORMATION FOR SEQ ID NO: 426:

35

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 380 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 426:

40

Met Ala Arg Arg Ser Ala Phe Pro Ala Ala Ala Leu Trp Leu Trp Ser  
 1 5 10 15

Ile Leu Leu Cys Leu Leu Ala Leu Arg Ala Glu Ala Gly Pro Pro Gln  
 20 25 30

45

Glu Glu Ser Leu Tyr Leu Trp Ile Asp Ala His Gln Ala Arg Val Leu  
 35 40 45

50

Ile Gly Phe Glu Glu Asp Ile Leu Ile Val Ser Glu Gly Lys Met Ala  
 50 55 60

Pro Phe Thr His Asp Phe Arg Lys Ala Gln Gln Arg Met Pro Ala Ile  
 65 70 75 80

55

Pro Val Asn Ile His Ser Met Asn Phe Thr Trp Gln Ala Ala Gly Gln  
 85 90 95

Ala Glu Tyr Phe Tyr Glu Phe Leu Ser Leu Arg Ser Leu Asp Lys Gly  
 100 105 110

60

580

Ile Met Ala Asp Pro Thr Val Asn Val Pro Leu Leu Gly Thr Val Pro  
 115 120 125  
 5 His Lys Ala Ser Val Val Gln Val Gly Phe Pro Cys Leu Gly Lys Gln  
 130 135 140  
 Asp Gly Val Ala Ala Phe Glu Val Asp Val Ile Val Met Asn Ser Glu  
 145 150 155 160  
 10 Gly Asn Thr Ile Leu Gln Thr Pro Gln Asn Ala Ile Phe Phe Lys Thr  
 165 170 175  
 Cys Gln Gln Ala Glu Cys Pro Gly Gly Cys Arg Asn Gly Gly Phe Cys  
 180 185 190  
 15 Asn Glu Arg Arg Ile Cys Glu Cys Pro Asp Gly Phe His Gly Pro His  
 195 200 205  
 20 Cys Glu Lys Ala Leu Cys Thr Pro Arg Cys Met Asn Gly Gly Leu Cys  
 210 215 220  
 Val Thr Pro Gly Phe Cys Ile Cys Pro Pro Gly Phe Tyr Gly Val Asn  
 225 230 235 240  
 25 Cys Asp Lys Ala Asn Cys Ser Thr Thr Cys Phe Asn Gly Gly Thr Cys  
 245 250 255  
 Phe Tyr Pro Gly Lys Cys Ile Xaa Pro Pro Gly Leu Glu Gly Glu Gln  
 260 265 270  
 30 Cys Glu Ile Ser Lys Cys Pro Gln Pro Cys Arg Asn Gly Gly Lys Cys  
 275 280 285  
 35 Ile Gly Lys Ser Lys Cys Lys Xaa Ser Lys Gly Tyr Gln Gly Asp Leu  
 290 295 300  
 Cys Ser Lys Pro Val Cys Glu Pro Gly Cys Gly Ala His Gly Thr Cys  
 305 310 315 320  
 40 His Glu Pro Asn Lys Cys Gln Cys Gln Glu Gly Trp His Gly Arg His  
 325 330 335  
 Cys Asn Lys Arg Tyr Glu Ala Ser Leu Ile His Ala Leu Arg Pro Ala  
 340 345 350  
 45 Gly Ala Gln Leu Arg Gln His Thr Pro Ser Leu Lys Lys Ala Glu Glu  
 355 360 365  
 50 Arg Arg Asp Pro Pro Glu Ser Asn Tyr Ile Trp Xaa  
 370 375 380

(2) INFORMATION FOR SEQ ID NO: 427:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 24 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 427:

Met Thr Ser Asn Leu Leu Leu Leu Thr Leu Leu Leu Lys Asp Thr Leu  
 1 5 10 15

5 Xaa Leu Ala Lys Xaa Asn Xaa Xaa  
 20

10 (2) INFORMATION FOR SEQ ID NO: 428:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 47 amino acids

(B) TYPE: amino acid

15 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 428:

Met Arg His His Thr Gln Leu Asn Phe Ile Phe Leu Val Glu Met Val  
 1 5 10 15

20 Phe Leu His Val Gly Gln Ala Gly Leu Lys Leu Pro Thr Ser Gly Asp  
 20 25 30

25 Xaa Ala Cys Phe Gly Leu Pro Lys Val Leu Gly Leu Gln Ala Xaa  
 35 40 45

(2) INFORMATION FOR SEQ ID NO: 429:

30

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 5 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 429:

Met Cys Ser Asp Xaa  
 1 5

40

(2) INFORMATION FOR SEQ ID NO: 430:

(i) SEQUENCE CHARACTERISTICS:

45 (A) LENGTH: 144 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 430:

50 Leu Leu Ser Ile Leu Leu Cys Leu Leu Ala Ser Gly Leu Val Val Phe  
 1 5 10 15

Phe Leu Phe Pro His Ser Val Leu Val Asp Asp Asp Gly Ile Lys Val  
 20 25 30

55

Val Lys Val Thr Phe Asn Lys Gln Asp Ser Leu Val Ile Leu Thr Ile  
 35 40 45

60

Met Ala Thr Leu Lys Ile Arg Asn Ser Asn Phe Tyr Thr Val Ala Val  
 50 55 60

582

Thr Ser Leu Ser Ser Gln Ile Gln Tyr Met Asn Thr Val Val Asn Phe  
 65 70 75 80  
 5 Thr Gly Lys Ala Glu Met Gly Gly Pro Phe Ser Tyr Val Tyr Phe Phe  
 85 90 95  
 Cys Thr Val Pro Glu Ile Leu Val His Asn Ile Val Ile Phe Met Arg  
 100 105 110  
 10 Thr Ser Val Lys Ile Ser Tyr Ile Gly Leu Met Thr Gln Ser Ser Leu  
 115 120 125  
 15 Glu Thr His His Tyr Val Asp Cys Gly Gly Asn Ser Thr Ala Ile Xaa  
 130 135 140

20

(2) INFORMATION FOR SEQ ID NO: 431:

25 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 37 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 431:

30 Met Phe Phe Phe Leu Tyr Val Tyr Ser Val Leu Cys Gly Leu Leu Val  
 1 5 10 15  
 Tyr Pro Ser Leu Pro Ser His Ser Val Ser Leu Val Thr Ser Leu Val  
 20 25 30  
 35 Ala Ser Ala Leu Xaa  
 35

40

(2) INFORMATION FOR SEQ ID NO: 432:

45 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 37 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 432:

50 Met Ala Ser Ile Asn Ala Val Tyr Ile His Val Phe Leu Gly Val Cys  
 1 5 10 15  
 Val Gln Ala Thr Ala Ala Cys Pro Trp Cys Ser Gln Cys Arg Xaa Gly  
 20 25 30  
 55 Ser Val Pro Ser Xaa  
 35

60 (2) INFORMATION FOR SEQ ID NO: 433:

583

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 192 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 433:

5 Met Met Ala Ala Met Val Leu Thr Ser Leu Ser Cys Ser Pro Val Val  
 1 5 10 15  
 10 Gln Ser Pro Pro Gly Thr Glu Ala Asn Phe Ser Ala Ser Arg Ala Ala  
 20 25 30  
 15 Cys Asp Pro Trp Lys Glu Ser Gly Asp Ile Ser Asp Ser Gly Xaa Ser  
 35 40 45  
 Thr Thr Ser Gly His Trp Ser Gly Ser Ser Gly Val Ser Thr Pro Ser  
 50 55 60  
 20 Pro Pro His Pro Gln Ala Ser Pro Lys Tyr Leu Gly Asp Ala Phe Gly  
 65 70 75 80  
 Ser Pro Gln Thr Asp His Gly Phe Glu Thr Asp Pro Asp Pro Phe Leu  
 85 90 95  
 25 Leu Asp Glu Pro Ala Pro Arg Lys Arg Lys Asn Ser Val Lys Val Met  
 100 105 110  
 Tyr Lys Cys Leu Trp Pro Asn Cys Gly Lys Val Leu Arg Ser Ile Val  
 115 120 125  
 30 Gly Ile Lys Arg His Val Lys Ala Leu His Leu Gly Asp Thr Val Asp  
 130 135 140  
 35 Ser Asp Gln Phe Lys Arg Glu Glu Asp Phe Tyr Tyr Thr Glu Val Gln  
 145 150 155 160  
 Leu Lys Glu Glu Ser Ala Ala Ala Ala Ala Ala Ala Ala Asp Pro  
 165 170 175  
 40 Gln Ser Leu Gly Leu Pro Pro Pro Ser Gln Leu Pro Pro Pro Ala Xaa  
 180 185 190

45

## (2) INFORMATION FOR SEQ ID NO: 434:

50

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 31 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 434:

55

Met Ser Thr Asn Tyr Leu Thr Asp Val Cys Ser Leu Phe Ser Tyr Leu  
 1 5 10 15

60 Asn Tyr Leu Tyr Phe His His His Leu Pro Val Pro Asn Thr Xaa

584

20

25

30

5 (2) INFORMATION FOR SEQ ID NO: 435:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 101 amino acids

(B) TYPE: amino acid

10 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 435:

Met Gly Phe Phe Phe Val Leu Phe Phe Leu Tyr Leu Ala Leu Ser Arg  
1 5 10 15

15 Asp Trp Ser Ile Asn Phe Leu Lys Asp His Arg Ile Asn Phe Phe Val  
20 25 30

20 Ala Thr Ser Tyr Phe Ser Val Tyr Val Arg Gly Xaa Pro Xaa Val Pro  
35 40 45

Ala Asp Thr Pro Leu Gly Pro Leu Leu Ser Leu Trp Leu His His Asn  
50 55 60

25 Ala Phe Phe Ser Ile Leu Pro Lys Phe Pro Glu Asn Xaa Xaa Phe Leu  
65 70 75 80

Ile Leu Lys Lys Leu Val Val Glu Met Gly Trp Asp Leu Phe Ile Ser  
85 90 95

30 Pro Glu Asn Lys Xaa  
100

35

(2) INFORMATION FOR SEQ ID NO: 436:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 37 amino acids

40 (B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 436:

45 Met Ala Arg Tyr Phe Ile Phe Phe Ile Leu Val Phe Met Lys Val Ser  
1 5 10 15

Leu Asn Thr Thr Trp Pro Ala Pro Arg Pro Ala Thr Leu Arg Thr Ala  
20 25 30

50 Asn Lys Ser Lys Xaa  
35

55 (2) INFORMATION FOR SEQ ID NO: 437:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 42 amino acids

60 (B) TYPE: amino acid

(D) TOPOLOGY: linear



585

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 437:

5 Phe Ser Thr Ile Arg Ser Gly Leu Thr Asp Arg Ser Val Asn Phe Leu  
 1 5 10 15  
 Phe Leu Phe Leu Asp Val Pro Asp Cys Arg Leu Val Asn Ile Glu Leu  
 20 25 30  
 10 Met Ala Asn Ser Thr Val Thr His Ala Xaa  
 35 40

(2) INFORMATION FOR SEQ ID NO: 438:

15 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 1 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 438:

Leu  
 1

25

(2) INFORMATION FOR SEQ ID NO: 439:

30 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 25 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 439:

35 Met Pro Trp Arg Arg Ala Gly Leu Met Met Leu Pro Ile Ile Thr Gly  
 1 5 10 15  
 Cys Cys Pro Cys Ser Ala Ser Ile Xaa  
 20 25  
 40

(2) INFORMATION FOR SEQ ID NO: 440:

45 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 54 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 440:

50 Met Tyr Leu Cys Lys Thr Val Lys Val Leu Ile Cys Tyr Asp Trp Ile  
 1 5 10 15  
 55 Leu Gly Leu Val Ser Ser Gly Gln His Trp Val Val Ser Leu Ser Tyr  
 20 25 30  
 Ser Ile Arg Val Tyr Pro Ala Met His Phe Thr Leu Cys Val His Ile  
 35 40 45  
 60 Tyr Ser Lys Glu Pro Cys

586

50

## 5 (2) INFORMATION FOR SEQ ID NO: 441:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 42 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

10

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 441:

Met Thr Ala Leu Val Trp Arg Lys Gly Pro Asp Gly Gly Ser Arg Lys  
 1 5 10 15

15

Pro Ile Leu Leu Leu Phe Phe Phe Leu Pro Leu Ile Leu Cys Phe His  
 20 25 30

20

Ser Phe Ile His Ser Ser Asn Ile Cys Xaa  
 35 40

25

## (2) INFORMATION FOR SEQ ID NO: 442:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 66 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

30

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 442:

Met Phe Leu Thr Thr Trp Phe Leu Leu Leu Ser Val Ala Trp Xaa Ala  
 1 5 10 15

35

Leu Thr Arg Ser Gly Arg Ser Cys Leu Pro Leu Val Gly Arg Pro Arg  
 20 25 30

Glu Gln Ser Pro Arg Thr His Cys Ala Ala Ser Ser Thr Lys Glu Arg  
 35 40 45

40

Asn Ser Asp Pro Gln Pro Ser Pro Pro Glu Val Val Gly Pro Leu Trp  
 50 55 60

45

Ser Xaa  
 65

50

## (2) INFORMATION FOR SEQ ID NO: 443:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 156 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

55

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 443:

Met Lys Ala Ile Gly Ile Glu Pro Ser Leu Ala Thr Tyr His His Ile  
 1 5 10 15

60

Ile Arg Leu Phe Asp Gln Pro Gly Asp Pro Leu Lys Arg Ser Ser Phe

587

20 25 30

Ile Ile Tyr Asp Ile Met Asn Glu Leu Met Gly Lys Arg Phe Ser Pro  
35 40 45

5 Lys Asp Pro Asp Asp Asp Lys Phe Phe Gln Ser Ala Met Ser Ile Cys  
50 55 60

10 Ser Ser Leu Arg Asp Leu Glu Leu Ala Tyr Gln Val His Gly Leu Leu  
65 70 75 80

Lys Thr Gly Asp Asn Trp Lys Phe Ile Gly Pro Asp Gln His Arg Asn  
85 90 95

15 Phe Tyr Tyr Ser Lys Phe Phe Asp Leu Ile Cys Leu Met Glu Gln Ile  
100 105 110

Asp Val Thr Leu Lys Trp Tyr Glu Asp Leu Ile Pro Ser Ala Tyr Phe  
115 120 125

20 Pro His Ser Gln Thr Met Ile His Leu Leu Gln Ala Leu Asp Val Ala  
130 135 140

25 Asn Arg Leu Glu Val Ile Pro Lys Ile Trp Glu Arg  
145 150 155

- 30 (2) INFORMATION FOR SEQ ID NO: 444:
- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 57 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear
- 35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 444:

Met His Phe Leu Phe Arg Phe Ile Val Phe Phe Tyr Leu Trp Gly Leu  
1 5 10 15

40 Phe Thr Ala Gln Arg Gln Lys Lys Glu Glu Ser Thr Glu Glu Val Lys  
20 25 30

Ile Glu Val Leu His Arg Pro Glu Asn Cys Ser Lys Thr Ser Lys Lys  
35 40 45

45 Gly Asp Leu Leu Lys Cys Pro Leu Xaa  
50 55

- 50 (2) INFORMATION FOR SEQ ID NO: 445:
- (i) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 416 amino acids
- 55 (B) TYPE: amino acid
- (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 445:

60 Met Arg Thr Leu Phe Asn Leu Leu Trp Leu Ala Leu Ala Cys Ser Pro  
1 5 10 15

Val His Thr Thr Leu Ser Lys Ser Asp Ala Lys Lys Ala Ala Ser Lys  
 20 25 30  
 5 Thr Leu Leu Glu Lys Ser Gln Phe Ser Asp Lys Pro Val Gln Asp Arg  
 35 40 45  
 Gly Leu Val Val Thr Asp Leu Lys Ala Glu Ser Val Val Leu Glu His  
 50 55 60  
 10 Arg Ser Tyr Cys Ser Ala Lys Ala Arg Asp Arg His Phe Ala Gly Asp  
 65 70 75 80  
 Val Leu Gly Tyr Val Thr Pro Trp Asn Ser His Gly Tyr Asp Val Thr  
 85 90 95  
 15 Lys Val Phe Gly Ser Lys Phe Thr Gln Ile Ser Pro Val Trp Leu Gln  
 100 105 110  
 Leu Lys Arg Arg Gly Arg Glu Met Phe Glu Val Thr Gly Leu His Asp  
 115 120 125  
 Val Asp Gln Gly Trp Met Arg Ala Val Arg Lys His Ala Lys Gly Leu  
 130 135 140  
 25 His Ile Val Pro Arg Leu Leu Phe Glu Asp Trp Thr Tyr Asp Asp Phe  
 145 150 155 160  
 Arg Asn Val Leu Asp Ser Glu Asp Glu Ile Glu Glu Leu Ser Lys Thr  
 165 170 175  
 30 Val Val Gln Val Ala Lys Asn Gln His Phe Asp Gly Phe Val Val Glu  
 180 185 190  
 Val Trp Asn Gln Leu Leu Ser Gln Lys Arg Val Gly Leu Ile His Met  
 195 200 205  
 Leu Thr His Leu Ala Glu Ala Leu His Gln Ala Arg Leu Leu Ala Leu  
 210 215 220  
 40 Leu Val Ile Pro Pro Ala Ile Thr Pro Gly Thr Asp Gln Leu Gly Met  
 225 230 235 240  
 Phe Thr His Lys Glu Phe Glu Gln Leu Ala Pro Val Leu Asp Gly Phe  
 245 250 255  
 45 Ser Leu Met Thr Tyr Asp Tyr Ser Thr Ala His Gln Pro Gly Pro Asn  
 260 265 270  
 Ala Pro Leu Ser Trp Val Arg Ala Cys Val Gln Val Leu Asp Pro Lys  
 275 280 285  
 Ser Lys Trp Arg Ser Lys Ile Leu Leu Gly Leu Asn Phe Tyr Gly Met  
 290 295 300  
 55 Asp Tyr Ala Thr Ser Lys Asp Ala Arg Glu Pro Val Val Gly Ala Arg  
 305 310 315 320  
 Tyr Ile Gln Thr Leu Lys Asp His Arg Pro Arg Met Val Trp Asp Ser  
 325 330 335  
 60

589

Gln Xaa Ser Glu His Phe Phe Glu Tyr Lys Lys Ser Arg Ser Gly Arg  
 340 345 350

5 His Val Val Phe Tyr Pro Thr Leu Lys Ser Leu Gln Val Arg Leu Glu  
 355 360 365

Leu Ala Arg Glu Leu Gly Val Gly Val Ser Ile Trp Glu Leu Ala Arg  
 370 375 380

10 Ala Trp Thr Thr Ser Thr Thr Cys Ser Arg Trp Ala Leu Arg Pro Pro  
 385 390 395 400

15 Arg Trp Thr Cys Ser Phe Leu Ser His Gly Val Ser Glu Gln Val Xaa  
 405 410 415

20

(2) INFORMATION FOR SEQ ID NO: 446:

25 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 64 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 446:

30 Met Ala Pro Gly Pro Leu Ser Ala Thr Gln Ala Val Val Ile His Thr  
 1 5 10 15

Thr His Cys Leu Gln Leu Pro Val Trp Cys Leu Ser Leu Val Ser Glu  
 20 25 30

35 Leu Leu Gly Arg Ala Pro Pro His Asn Lys Asp Ala Leu Arg Pro Ser  
 35 40 45

40 Lys Lys Lys Lys Lys Lys Leu Xaa Gly Gly Pro Val Pro Ile Pro Pro  
 50 55 60

45

(2) INFORMATION FOR SEQ ID NO: 447:

50 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 206 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 447:

55 Met Leu Gly Ala Lys Pro His Trp Leu Pro Gly Pro Leu His Ser Pro  
 1 5 10 15

Gly Leu Pro Leu Val Leu Val Leu Leu Ala Leu Gly Ala Gly Trp Ala  
 20 25 30

60

590

Gln Glu Gly Ser Glu Pro Val Leu Leu Glu Gly Glu Cys Leu Val Val  
 35 40 45

5 Cys Glu Pro Gly Arg Ala Ala Gly Gly Pro Gly Gly Ala Ala Leu  
 50 55 60

Gly Glu Ala Pro Pro Gly Arg Val Ala Phe Ala Ala Val Arg Ser Xaa  
 65 70 75 80

10 His His Glu Pro Ala Gly Glu Thr Gly Asn Gly Thr Xaa Gly Ala Ile  
 85 90 95

Tyr Phe Asp Gln Val Leu Val Asn Glu Gly Gly Gly Phe Asp Arg Ala  
 100 105 110

15 Ser Gly Ser Phe Val Ala Pro Val Arg Gly Val Tyr Ser Phe Arg Phe  
 115 120 125

20 His Val Val Lys Val Tyr Asn Arg Gln Thr Val Gln Val Ser Leu Met  
 130 135 140

Leu Asn Thr Trp Pro Val Ile Ser Ala Phe Ala Asn Asp Pro Asp Val  
 145 150 155 160

25 Thr Arg Glu Ala Ala Thr Ser Ser Val Leu Leu Pro Leu Asp Pro Gly  
 165 170 175

Asp Arg Val Ser Leu Arg Leu Arg Arg Gly Asn Leu Leu Gly Gly Trp  
 180 185 190

30 Lys Tyr Ser Ser Phe Ser Gly Phe Leu Ile Phe Pro Leu Xaa  
 195 200 205

35

(2) INFORMATION FOR SEQ ID NO: 448:

(i) SEQUENCE CHARACTERISTICS:

40

(A) LENGTH: 62 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 448:

45

Met Ser Ser Leu Leu Ser Ala Gly Leu Gln Ala Ser Leu Cys Gly Lys  
 1 5 10 15

Xaa Leu Trp Ala Ser Thr Trp Tyr Leu Val Cys Cys Leu Leu Pro Phe  
 20 25 30

50

Phe His Gln Gly Cys Cys Asp His Lys Ser Lys Gln Gln Tyr Ile Pro  
 35 40 45

Asn Leu Lys Ser Tyr Cys Gly Leu Ser Thr Ile Glu Ile Xaa  
 50 55 60

55

(2) INFORMATION FOR SEQ ID NO: 449:

60

(i) SEQUENCE CHARACTERISTICS:

591

(A) LENGTH: 316 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 449:

5 Met Ser Thr Lys Lys Leu Cys Ile Val Gly Gly Ile Leu Leu Val Phe  
 1 5 10 15  
 10 Gln Ile Ile Ala Phe Leu Val Gly Gly Leu Ile Ala Pro Gly Pro Thr  
 20 25 30  
 Thr Ala Val Ser Tyr Met Ser Val Lys Cys Val Asp Ala Arg Lys Asn  
 35 40 45  
 15 His His Lys Thr Lys Trp Phe Val Pro Trp Gly Pro Asn His Cys Asp  
 50 55 60  
 Lys Ile Arg Asp Ile Glu Glu Ala Ile Pro Arg Glu Ile Glu Ala Asn  
 65 70 75 80  
 20 Asp Ile Val Phe Ser Val His Ile Pro Leu Pro His Met Glu Met Ser  
 85 90 95  
 25 Pro Trp Phe Gln Phe Met Xaa Phe Ile Leu Gln Leu Asp Ile Ala Phe  
 100 105 110  
 Lys Leu Asn Asn Gln Ile Arg Glu Asn Ala Glu Val Ser Met Asp Val  
 115 120 125  
 30 Ser Leu Ala Tyr Arg Asp Asp Ala Phe Ala Glu Trp Thr Glu Met Ala  
 130 135 140  
 His Glu Arg Val Pro Arg Lys Leu Lys Cys Thr Phe Thr Ser Pro Lys  
 145 150 155 160  
 35 Thr Pro Glu His Gly Gly Pro Val Thr Met Asn Val Met Ser Phe Leu  
 165 170 175  
 40 Ser Trp Lys Leu Gly Leu Trp Pro Met Lys Phe Tyr Leu Leu Asn Ile  
 180 185 190  
 Arg Leu Pro Val Asn Glu Lys Lys Lys Ile Asn Val Gly Ile Gly Glu  
 195 200 205  
 45 Ile Lys Asp Ile Arg Leu Val Gly Ile His Gln Asn Gly Gly Phe Thr  
 210 215 220  
 Lys Val Trp Phe Ala Met Lys Thr Phe Leu Thr Pro Ser Ile Phe Ile  
 225 230 235 240  
 50 Ile Met Val Trp Tyr Trp Arg Arg Ile Thr Met Met Ser Arg Pro Pro  
 245 250 255  
 Val Leu Leu Glu Lys Val Ile Phe Ala Leu Gly Ile Ser Met Thr Phe  
 260 265 270  
 55 Ile Asn Ile Pro Val Glu Trp Phe Ser Ile Gly Phe Asp Trp Thr Trp  
 275 280 285  
 60 Met Leu Leu Phe Gly Asp Ile Arg Gln Ala Ser Ser Met Xaa Cys Phe

592

290                      295                      300

Xaa Pro Ser Gly Ser Ser Ser Val Ala Ser Thr Xaa

305                      310                      315

5

(2) INFORMATION FOR SEQ ID NO: 450:

10            (i) SEQUENCE CHARACTERISTICS:

              (A) LENGTH: 24 amino acids

              (B) TYPE: amino acid

              (D) TOPOLOGY: linear

              (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 450:

15            Met Leu Ala Leu Leu Gly Leu Leu Ala Gly Thr Glu His Pro Pro Gly

              1                      5                      10                      15

20            Pro Gln Gly Pro Gly Pro Ser Xaa

              20

(2) INFORMATION FOR SEQ ID NO: 451:

25            (i) SEQUENCE CHARACTERISTICS:

              (A) LENGTH: 10 amino acids

              (B) TYPE: amino acid

              (D) TOPOLOGY: linear

30            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 451:

              Met Pro Ser Gly Ala Cys Cys Ser Pro Xaa

              1                      5                      10

35

(2) INFORMATION FOR SEQ ID NO: 452:

40            (i) SEQUENCE CHARACTERISTICS:

              (A) LENGTH: 26 amino acids

              (B) TYPE: amino acid

              (D) TOPOLOGY: linear

              (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 452:

45            Met Leu Pro Ala Leu Ser Thr Val Leu Leu Pro Thr Pro Ser Leu Cys

              1                      5                      10                      15

              Ser Gly Asn Pro Arg Glu Gly Trp Ala Xaa

              20                      25

50

(2) INFORMATION FOR SEQ ID NO: 453:

55            (i) SEQUENCE CHARACTERISTICS:

              (A) LENGTH: 172 amino acids

              (B) TYPE: amino acid

              (D) TOPOLOGY: linear

60            (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 453:



593

Met Tyr Ser Leu His Ser Trp Val Gly Leu Ile Ala Val Ile Cys Tyr  
 1 5 10 15

Leu Leu Gln Leu Leu Ser Gly Phe Ser Val Phe Leu Leu Pro Trp Ala  
 5 20 25 30

Pro Leu Ser Leu Arg Ala Phe Leu Met Pro Ile His Val Tyr Ser Gly  
 35 40 45

10 Ile Val Ile Phe Gly Thr Val Ile Ala Thr Ala Leu Met Gly Leu Thr  
 50 55 60

Glu Lys Leu Ile Phe Ser Leu Arg Asp Pro Ala Tyr Ser Thr Phe Pro  
 65 70 75 80

15 Pro Glu Gly Val Phe Val Asn Thr Leu Gly Leu Leu Ile Leu Val Phe  
 85 90 95

Gly Ala Leu Ile Phe Trp Ile Val Thr Arg Pro Gln Trp Lys Arg Pro  
 20 100 105 110

Lys Glu Pro Asn Ser Thr Ile Leu His Pro Asn Gly Gly Thr Glu Gln  
 115 120 125

25 Gly Ala Arg Gly Ser Met Pro Ala Tyr Ser Gly Asn Asn Met Asp Lys  
 130 135 140

Ser Asp Ser Glu Leu Asn Xaa Glu Val Ala Ala Arg Lys Arg Asn Leu  
 145 150 155 160

30 Ala Leu Asp Glu Ala Gly Gln Arg Ser Thr Met Xaa  
 165 170

35

(2) INFORMATION FOR SEQ ID NO: 454:

40

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 96 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 454:

45

Met Phe His Val Leu Met Ala Gln Val Thr Xaa Val Ile Ile Thr Thr  
 1 5 10 15

Val Ser Val Leu Val Phe Asp Phe Arg Pro Ser Leu Glu Phe Phe Leu  
 20 25 30

50 Glu Ala Xaa Ser Val Xaa Leu Ser Ile Phe Ile Tyr Asn Ala Ser Lys  
 35 40 45

Pro Gln Val Pro Glu Tyr Ala Pro Arg Gln Glu Arg Ile Arg Asp Leu  
 50 55 60

55 Ser Gly Asn Leu Trp Glu Arg Ser Ser Gly Asp Gly Glu Glu Leu Glu  
 65 70 75 80

Arg Leu Thr Lys Pro Lys Ser Asp Glu Ser Asp Glu Asp Thr Phe Xaa  
 85 90 95

60

5

(2) INFORMATION FOR SEQ ID NO: 455:

10

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 171 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 455:

15

Met Arg Gly Pro Ala Gln Ala Lys Leu Leu Pro Gly Ser Ala Ile Gln  
1 5 10 15Ala Leu Val Gly Leu Ala Arg Pro Leu Val Leu Ala Leu Leu Val  
20 25 30

20

Ser Ala Ala Leu Ser Ser Val Val Ser Arg Thr Asp Ser Pro Ser Pro  
35 40 45

25

Thr Val Leu Asn Ser His Ile Ser Thr Pro Asn Val Asn Ala Leu Thr  
50 55 60His Glu Asn Gln Thr Lys Pro Ser Ile Ser Gln Ile Ser Thr Thr Leu  
65 70 75 80

30

Pro Pro Thr Thr Ser Thr Lys Lys Ser Gly Gly Ala Ser Val Val Pro  
85 90 95His Pro Ser Pro Thr Pro Leu Ser Gln Glu Glu Ala Asp Asn Asn Glu  
100 105 110

35

Asp Pro Ser Ile Glu Glu Glu Asp Leu Leu Met Leu Asn Ser Ser Pro  
115 120 125

40

Ser Thr Ala Lys Asp Thr Leu Asp Asn Gly Asp Tyr Gly Glu Pro Asp  
130 135 140Tyr Asp Trp Thr Thr Gly Pro Arg Asp Asp Asp Glu Ser Asp Xaa His  
145 150 155 160

45

Leu Gly Arg Lys Gln Gly Leu His Gly Asn Xaa  
165 170

50

(2) INFORMATION FOR SEQ ID NO: 456:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 92 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 456:

Met Lys Ala Ser Gln Cys Cys Cys Cys Leu Ser His Leu Leu Ala Ser  
1 5 10 15

60

595

Val Leu Leu Leu Leu Leu Leu Pro Glu Leu Ser Gly Xaa Leu Xaa Val  
 20 25 30  
 Leu Leu Gln Ala Ala Glu Ala Ala Pro Gly Xaa Gly Pro Pro Asp Pro  
 5 35 40 45  
 Arg Pro Gly His Tyr Arg Arg Cys His Arg Ala Leu Thr Pro Ala Gln  
 50 55 60  
 10 Gln Pro Gly Arg Gly Leu Ala Glu Ala Ala Gly Ala Ala Gly Leu Arg  
 65 70 75 80  
 Gly Arg Gln Trp Gln Gln Pro Cys Gly Arg Ala Xaa  
 85 90  
 15  
 (2) INFORMATION FOR SEQ ID NO: 457:  
 20 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 206 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 457:  
 25 Ile Ser Val Leu Xaa Tyr Pro His Cys Val Val His Glu Leu Pro Glu  
 1 5 10 15  
 Leu Thr Ala Glu Ser Leu Glu Ala Gly Asp Ser Asn Gln Phe Cys Trp  
 30 20 25 30  
 Arg Asn Leu Phe Ser Cys Ile Asn Leu Leu Arg Ile Leu Asn Lys Leu  
 35 35 40 45  
 Thr Lys Trp Lys His Ser Arg Thr Met Met Leu Val Val Phe Lys Ser  
 50 55 60  
 Ala Pro Ile Leu Lys Arg Ala Leu Lys Val Lys Gln Ala Met Met Gln  
 40 65 70 75 80  
 Leu Tyr Val Leu Lys Leu Leu Lys Val Gln Thr Lys Tyr Leu Gly Arg  
 85 90 95  
 Gln Trp Arg Lys Ser Asn Met Lys Thr Met Ser Ala Ile Tyr Gln Lys  
 45 100 105 110  
 Val Arg His Arg Leu Asn Asp Asp Trp Ala Tyr Gly Asn Asp Leu Asp  
 115 120 125  
 50 Ala Arg Pro Trp Asp Phe Gln Ala Glu Glu Cys Ala Leu Arg Ala Asn  
 130 135 140  
 Ile Glu Arg Phe Asn Ala Arg Arg Tyr Asp Arg Ala His Ser Asn Pro  
 145 150 155 160  
 55 Asp Phe Leu Pro Val Asp Asn Cys Leu Gln Ser Val Leu Gly Gln Arg  
 165 170 175  
 Val Asp Leu Pro Glu Asp Phe Gln Met Asn Tyr Asp Leu Trp Leu Glu  
 60 180 185 190

Arg Glu Val Phe Ser Lys Pro Ile Ser Trp Glu Glu Leu Leu  
 195 200 205

5

(2) INFORMATION FOR SEQ ID NO: 458:

(i) SEQUENCE CHARACTERISTICS:

10

(A) LENGTH: 317 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 458:

15

Met Ala Pro Pro Ala Pro Gly Pro Ala Ser Gly Gly Ser Gly Glu Val  
 1 5 10 15

Asp Glu Leu Phe Asp Val Lys Asn Ala Phe Tyr Ile Gly Ser Tyr Gln  
 20 25 30

20

Gln Cys Ile Asn Glu Ala Xaa Xaa Val Lys Leu Ser Ser Pro Glu Arg  
 35 40 45

25

Asp Val Glu Arg Asp Val Phe Leu Tyr Arg Ala Tyr Leu Ala Gln Arg  
 50 55 60

Lys Phe Gly Val Val Leu Asp Glu Ile Lys Pro Ser Ser Ala Pro Glu  
 65 70 75 80

30

Leu Gln Ala Val Arg Met Phe Ala Asp Tyr Leu Ala His Glu Ser Arg  
 85 90 95

Arg Asp Ser Ile Val Ala Glu Leu Asp Arg Glu Met Ser Arg Ser Xaa  
 100 105 110

35

Asp Val Thr Asn Thr Thr Phe Leu Leu Met Ala Ala Ser Ile Tyr Leu  
 115 120 125

40

His Asp Gln Asn Pro Asp Ala Ala Leu Arg Ala Leu His Gln Gly Asp  
 130 135 140

Ser Leu Glu Cys Thr Ala Met Thr Val Gln Ile Leu Leu Lys Leu Asp  
 145 150 155 160

45

Arg Leu Asp Leu Ala Arg Lys Glu Leu Lys Arg Met Gln Asp Leu Asp  
 165 170 175

Glu Asp Ala Thr Leu Thr Gln Leu Ala Thr Ala Trp Val Ser Leu Ala  
 180 185 190

50

Thr Gly Gly Glu Lys Leu Gln Asp Ala Tyr Tyr Ile Phe Gln Glu Met  
 195 200 205

55

Ala Asp Lys Cys Ser Pro Thr Leu Leu Leu Leu Asn Gly Gln Ala Ala  
 210 215 220

Cys His Met Ala Gln Gly Arg Trp Glu Ala Ala Glu Gly Leu Leu Gln  
 225 230 235 240

60

Glu Ala Leu Asp Lys Asp Ser Gly Tyr Pro Glu Thr Leu Val Asn Leu

597

245                      250                      255  
 Ile Val Leu Ser Gln His Leu Gly Lys Pro Pro Glu Val Thr Asn Arg  
                          260                      265                      270  
 5 Tyr Leu Ser Gln Leu Lys Asp Ala His Arg Ser His Pro Phe Ile Lys  
                          275                      280                      285  
 10 Glu Tyr Gln Ala Lys Glu Asn Asp Phe Asp Arg Leu Val Leu Gln Tyr  
                          290                      295                      300  
 Ala Pro Ser Ala Glu Ala Gly Pro Glu Leu Ser Gly Pro  
                          305                      310                      315  
 15  
 (2) INFORMATION FOR SEQ ID NO: 459:  
 (i) SEQUENCE CHARACTERISTICS:  
 20 (A) LENGTH: 261 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 459:  
 25 Arg Asp Val Glu Arg Asp Val Phe Leu Tyr Arg Ala Tyr Leu Ala Gln  
       1                      5                      10                      15  
 Arg Lys Phe Gly Val Val Leu Asp Glu Ile Lys Pro Ser Ser Ala Pro  
                          20                      25                      30  
 30 Glu Leu Gln Ala Val Arg Met Phe Ala Asp Tyr Leu Ala His Glu Ser  
                          35                      40                      45  
 Arg Arg Asp Ser Ile Val Ala Glu Leu Asp Arg Glu Met Ser Arg Ser  
 35                      50                      55                      60  
 Xaa Asp Val Thr Asn Thr Thr Phe Leu Leu Met Ala Ala Ser Ile Tyr  
       65                      70                      75                      80  
 40 Leu His Asp Gln Asn Pro Asp Ala Ala Leu Arg Ala Leu His Gln Gly  
                          85                      90                      95  
 Asp Ser Leu Glu Cys Thr Ala Met Thr Val Gln Ile Leu Leu Lys Leu  
                          100                      105                      110  
 45 Asp Arg Leu Asp Leu Ala Arg Lys Glu Leu Lys Arg Met Gln Asp Leu  
                          115                      120                      125  
 Asp Glu Asp Ala Thr Leu Thr Gln Leu Ala Thr Ala Trp Val Ser Leu  
 50                      130                      135                      140  
 Ala Thr Gly Gly Glu Lys Leu Gln Asp Ala Tyr Tyr Ile Phe Gln Glu  
                          145                      150                      155                      160  
 55 Met Ala Asp Lys Cys Ser Pro Thr Leu Leu Leu Leu Asn Gly Gln Ala  
                          165                      170                      175  
 Ala Cys His Met Ala Gln Gly Arg Trp Glu Ala Ala Glu Gly Leu Leu  
                          180                      185                      190  
 60

598

Gln Glu Ala Leu Asp Lys Asp Ser Gly Tyr Pro Glu Thr Leu Val Asn  
 195 200 205

5 Leu Ile Val Leu Ser Gln His Leu Gly Lys Pro Pro Glu Val Thr Asn  
 210 215 220

Arg Tyr Leu Ser Gln Leu Lys Asp Ala His Arg Ser His Pro Phe Ile  
 225 230 235 240

10 Lys Glu Tyr Gln Ala Lys Glu Asn Asp Phe Asp Arg Leu Val Leu Gln  
 245 250 255

Tyr Ala Pro Ser Ala  
 260

15

(2) INFORMATION FOR SEQ ID NO: 460:

20 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 156 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 460:

25 Met Lys Ala Ile Gly Ile Glu Pro Ser Leu Ala Thr Tyr His His Ile  
 1 5 10 15

Ile Arg Leu Phe Asp Gln Pro Gly Asp Pro Leu Lys Arg Ser Ser Phe  
 30 20 25 30

Ile Ile Tyr Asp Ile Met Asn Glu Leu Met Gly Lys Arg Phe Ser Pro  
 35 35 40 45

35 Lys Asp Pro Asp Asp Asp Lys Phe Phe Gln Ser Ala Met Ser Ile Cys  
 50 55 60

Ser Ser Leu Arg Asp Leu Glu Leu Ala Tyr Gln Val His Gly Leu Leu  
 65 70 75 80

40 Lys Thr Gly Asp Asn Trp Lys Phe Ile Gly Pro Asp Gln His Arg Asn  
 85 90 95

Phe Tyr Tyr Ser Lys Phe Phe Asp Leu Ile Cys Leu Met Glu Gln Ile  
 45 100 105 110

Asp Val Thr Leu Lys Trp Tyr Glu Asp Leu Ile Pro Ser Ala Tyr Phe  
 115 120 125

50 Pro His Ser Gln Thr Met Ile His Leu Leu Gln Ala Leu Asp Val Ala  
 130 135 140

Asn Arg Leu Glu Val Ile Pro Lys Ile Trp Glu Arg  
 145 150 155

55

(2) INFORMATION FOR SEQ ID NO: 461:

60 (i) SEQUENCE CHARACTERISTICS:

599

(A) LENGTH: 176 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 461:

5  
 Lys Asp Ser Lys Glu Tyr Gly His Thr Phe Arg Ser Asp Leu Arg Glu  
 1 5 10 15

10  
 Glu Ile Leu Met Leu Met Ala Arg Asp Lys His Pro Pro Glu Leu Gln  
 20 25 30

Val Ala Phe Ala Asp Cys Ala Ala Asp Ile Lys Ser Ala Tyr Glu Ser  
 35 40 45

15  
 Gln Pro Ile Arg Gln Thr Ala Gln Asp Trp Pro Ala Thr Ser Leu Asn  
 50 55 60

Cys Ile Ala Ile Leu Phe Leu Arg Ala Gly Arg Thr Gln Glu Ala Trp  
 65 70 75 80

20  
 Lys Met Leu Gly Leu Phe Arg Lys His Asn Lys Ile Pro Arg Ser Glu  
 85 90 95

25  
 Leu Leu Asn Glu Leu Met Asp Ser Ala Lys Val Ser Asn Ser Pro Ser  
 100 105 110

Gln Ala Ile Glu Val Val Glu Leu Ala Ser Ala Phe Ser Leu Pro Ile  
 115 120 125

30  
 Cys Glu Gly Leu Thr Gln Arg Val Met Ser Asp Phe Ala Ile Asn Gln  
 130 135 140

Glu Gln Lys Glu Ala Leu Ser Asn Leu Thr Ala Leu Thr Ser Asp Ser  
 145 150 155 160

35  
 Asp Thr Asp Ser Ser Ser Asp Ser Asp Ser Asp Thr Ser Glu Gly Lys  
 165 170 175

40

(2) INFORMATION FOR SEQ ID NO: 462:

45

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 324 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

50

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 462:

Met Ser Ser Asp Asn Glu Ser Asp Ile Glu Asp Glu Asp Leu Lys Leu  
 1 5 10 15

55  
 Glu Leu Arg Arg Leu Arg Asp Lys His Leu Lys Glu Ile Gln Asp Leu  
 20 25 30

Gln Ser Arg Gln Lys His Glu Ile Glu Ser Leu Tyr Thr Lys Leu Gly  
 35 40 45

60

600

Lys Val Pro Pro Ala Val Ile Ile Pro Pro Ala Ala Pro Leu Ser Gly  
 50 55 60  
 Arg Arg Arg Arg Pro Thr Lys Ser Lys Gly Ser Lys Ser Ser Arg Ser  
 5 65 70 75 80  
 Ser Ser Leu Gly Asn Lys Ser Pro Gln Leu Ser Gly Asn Leu Ser Gly  
 85 90 95  
 10 Gln Ser Ala Ala Ser Val Leu His Pro Gln Gln Thr Leu His Pro Pro  
 100 105 110  
 Gly Asn Ile Pro Glu Ser Gly Gln Asn Gln Leu Leu Gln Pro Leu Lys  
 115 120 125  
 15 Pro Ser Pro Ser Ser Asp Asn Leu Tyr Ser Ala Phe Thr Ser Asp Gly  
 130 135 140  
 Ala Ile Ser Val Pro Ser Leu Ser Ala Pro Gly Gln Gly Thr Ser Ser  
 20 145 150 155 160  
 Thr Asn Thr Val Gly Ala Thr Val Asn Ser Gln Ala Ala Gln Ala Gln  
 165 170 175  
 25 Pro Pro Ala Met Thr Ser Ser Arg Lys Gly Thr Phe Thr Asp Asp Leu  
 180 185 190  
 His Lys Leu Val Asp Asn Trp Ala Arg Asp Ala Met Asn Leu Ser Gly  
 195 200 205  
 30 Arg Arg Gly Ser Lys Gly His Met Asn Tyr Glu Gly Pro Gly Met Ala  
 210 215 220  
 Arg Lys Phe Ser Ala Pro Gly Gln Leu Cys Ile Ser Met Thr Ser Asn  
 35 225 230 235 240  
 Leu Gly Gly Ser Ala Pro Ile Ser Ala Ala Ser Ala Thr Ser Leu Gly  
 245 250 255  
 40 His Phe Thr Lys Ser Met Cys Pro Pro Gln Gln Tyr Gly Phe Pro Ala  
 260 265 270  
 Thr Pro Phe Gly Ala Gln Trp Ser Gly Thr Gly Gly Pro Ala Pro Gln  
 275 280 285  
 45 Pro Leu Gly Gln Phe Gln Pro Val Gly Thr Ala Ser Leu Gln Asn Phe  
 290 295 300  
 Asn Ile Ser Asn Leu Gln Lys Ser Ile Ser Asn Pro Pro Gly Ser Asn  
 50 305 310 315 320  
 Leu Arg Thr Thr

55

(2) INFORMATION FOR SEQ ID NO: 463:

(i) SEQUENCE CHARACTERISTICS:

60

(A) LENGTH: 133 amino acids



601

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 463:

5 Ile Gln Asp Leu Gln Ser Arg Gln Lys His Glu Ile Glu Ser Leu Tyr  
 1 5 10 15

Thr Lys Leu Gly Lys Val Pro Pro Ala Val Ile Ile Pro Pro Ala Ala  
 20 25 30

10 Pro Leu Ser Gly Arg Arg Arg Arg Pro Thr Lys Ser Lys Gly Ser Lys  
 35 40 45

15 Ser Ser Arg Ser Ser Ser Leu Gly Asn Lys Ser Pro Gln Leu Ser Gly  
 50 55 60

Asn Leu Ser Gly Gln Ser Ala Ala Ser Val Leu His Pro Gln Gln Thr  
 65 70 75 80

20 Leu His Pro Pro Gly Asn Ile Pro Glu Ser Gly Gln Asn Gln Leu Leu  
 85 90 95

Gln Pro Leu Lys Pro Ser Pro Ser Ser Asp Asn Leu Tyr Ser Ala Phe  
 100 105 110

25 Thr Ser Asp Gly Ala Ile Ser Val Pro Ser Leu Ser Ala Pro Gly Gln  
 115 120 125

30 Gly Thr Ser Ser Thr  
 130

(2) INFORMATION FOR SEQ ID NO: 464:

35

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 53 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

40

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 464:

Thr Ser Asp Gly Ala Ile Ser Val Pro Ser Leu Ser Ala Pro Gly Gln  
 1 5 10 15

45 Gly Thr Ser Ser Thr Asn Thr Val Gly Ala Thr Val Asn Ser Gln Ala  
 20 25 30

Ala Gln Ala Gln Pro Pro Ala Met Thr Ser Ser Arg Lys Gly Thr Phe  
 35 40 45

50 Thr Asp Asp Leu His  
 50

55

(2) INFORMATION FOR SEQ ID NO: 465:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 48 amino acids

(B) TYPE: amino acid

60

602

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 465:

5    Lys Gly His Met Asn Tyr Glu Gly Pro Gly Met Ala Arg Lys Phe Ser  
      1                    5                    10                    15  
      Ala Pro Gly Gln Leu Cys Ile Ser Met Thr Ser Asn Leu Gly Gly Ser  
                          20                    25                    30  
 10    Ala Pro Ile Ser Ala Ala Ser Ala Thr Ser Leu Gly His Phe Thr Lys  
                          35                    40                    45

15

(2) INFORMATION FOR SEQ ID NO: 466:

20        (i) SEQUENCE CHARACTERISTICS:  
               (A) LENGTH: 31 amino acids  
               (B) TYPE: amino acid  
               (D) TOPOLOGY: linear  
               (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 466:

25        Gln Pro Leu Lys Pro Ser Pro Ser Ser Asp Asn Leu Tyr Ser Ala Phe  
              1                    5                    10                    15  
 30        Thr Ser Asp Gly Ala Ile Ser Val Pro Ser Leu Ser Ala Pro Gly  
                          20                    25                    30

(2) INFORMATION FOR SEQ ID NO: 467:

35        (i) SEQUENCE CHARACTERISTICS:  
               (A) LENGTH: 57 amino acids  
               (B) TYPE: amino acid  
               (D) TOPOLOGY: linear  
 40        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 467:

          Val Arg Val Ala Ala Ala Glu Ser Met Xaa Leu Leu Leu Glu Cys Ala  
              1                    5                    10                    15  
 45        Xaa Val Arg Gly Pro Glu Tyr Leu Thr Gln Met Trp His Phe Met Cys  
                          20                    25                    30  
           Asp Ala Leu Ile Lys Ala Ile Gly Thr Glu Pro Asp Ser Asp Val Leu  
                          35                    40                    45  
 50        Ser Glu Ile Met His Ser Phe Ala Lys  
              50                    55

55

(2) INFORMATION FOR SEQ ID NO: 468:

          (i) SEQUENCE CHARACTERISTICS:  
               (A) LENGTH: 85 amino acids  
 60        (B) TYPE: amino acid

603

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 468:

5 Met Glu Ile Asn Asn Gln Asn Cys Phe Ile Val Ile Asp Leu Val Arg  
 1 5 10 15

Thr Val Met Glu Asn Gly Val Glu Gly Leu Leu Ile Phe Gly Ala Phe  
 20 25 30

10 Leu Pro Glu Ser Trp Leu Ile Gly Val Arg Cys Ser Ser Glu Pro Pro  
 35 40 45

Lys Ala Leu Leu Leu Ile Leu Ala His Ser Gln Lys Arg Arg Leu Asp  
 50 55 60

15 Gly Trp Ser Phe Ile Arg His Leu Arg Val His Tyr Cys Val Ser Leu  
 65 70 75 80

20 Thr Ile His Phe Ser  
 85

(2) INFORMATION FOR SEQ ID NO: 469:

25

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

30

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 469:

Gln Asp Lys His Ala Glu Glu Val Arg Lys Asn Lys Glu Leu Lys Glu  
 1 5 10 15

35 Glu Ala Ser Arg  
 20

40 (2) INFORMATION FOR SEQ ID NO: 470:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 92 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

45

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 470:

Gln Gln Asp Leu Ser Pro Trp Ala Ala Pro Val Gly Cys Pro Leu Xaa  
 1 5 10 15

50 Xaa Ala Ser Xaa Thr Cys His Xaa Leu Pro Leu Ser Gly Cys Leu Arg  
 20 25 30

Arg Gln Ser Xaa Ser Leu Pro Val Val Ala Xaa Leu Cys Phe Trp Phe  
 35 40 45

55 Ser Cys Pro Leu Ala Ser Leu Phe Val Pro Gly Gln Pro Cys Val Thr  
 50 55 60

60 Cys Pro Phe Pro Ser Leu Pro Phe Gln Asp Lys His Ala Glu Glu Val

604

65                      70                      75                      80

Arg Lys Asn Lys Glu Leu Lys Glu Glu Ala Ser Arg  
                        85                      90

5

(2) DESCRIPTION FOR SEQ ID NO: 471:

10

### 1.1) SEQUENCE CHARACTERISTICS:

(2) LENGTH: 37 amino acids

(2) TYPE: amino acid

(D) TOPOLOGY: linear

72) SEQUENCE DESCRIPTION: SEQ ID NO: 471:

15

Pro Thr Arg Cys Cys Thr Thr Gln Pro Cys Arg Ser Ser Ala Arg Arg  
1 5 10 15

20

```

Pro Cys Trp Val Pro Met Val Pro Ser Pro Glu Gly Arg Glu Xaa Gln
      22                      25                      30

```

Pro Thr Cys Pro Ser  
35

25

(2) DECRYPTION FOR SEQ ID NO: 472:

30

(1) ~~SEVERE~~ CHARACTERISTICS:

(A) LENGTH: 363 amino acids

(3) TYPE: amino acid

(D) TOPOLOGY: linear

'72) SEQUENCE DESCRIPTION: SEQ ID NO: 472:

35

Met Lys Arg Ser Leu Asn Glu Asn Ser Ala Arg Ser Thr Ala Gly Cys  
                    5                        10                              15

Leu Pro Val Pro Leu Phe Asn Gln Lys Lys Arg Asn Arg Gln Pro Leu  
20 25 30

40

Tar Ser Asn Pro Leu Lys Asp Asp Ser Gly Ile Ser Thr Pro Ser Asp  
35 40 45

45

Asn Tyr Asp Phe Pro Pro Leu Pro Thr Asp Trp Ala Trp Glu Ala Val  
50 55 60

Asn Pro Glu Zaa Ala Pro Val Met Lys Thr Val Asp Thr Gly Gln Ile  
65 70 75 80

50

Pro His Ser Val Ser Arg Pro Leu Arg Ser Gln Asp Ser Val Phe Asn  
85 90 95

Ser Ile Gln Ser Asn Thr Gly Arg Ser Gln Gly Gly Trp Ser Tyr Arg  
100 105 110

55

Asp Gly Asn Lys Asn Thr Ser Leu Lys Thr Trp Xaa Lys Asn Asp Phe  
115 120 125

60

Lys Pro Gln Cys Lys Arg Thr Asn Leu Val Ala Asn Asp Gly Lys Asn  
 130 135 140

605

Ser Cys Pro Met Ser Ser Gly Ala Gln Gln Gln Lys Gln Leu Arg Thr  
 145 150 155 160  
 5 Pro Glu Pro Pro Asn Leu Ser Arg Asn Lys Glu Thr Glu Leu Leu Arg  
 165 170 175  
 Gln Thr His Ser Ser Lys Ile Ser Gly Cys Thr Met Arg Gly Leu Asp  
 180 185 190  
 10 Lys Asn Ser Ala Leu Gln Thr Leu Lys Pro Asn Phe Gln Gln Asn Gln  
 195 200 205  
 Tyr Lys Xaa Gln Met Leu Asp Asp Ile Pro Glu Asp Asn Thr Leu Lys  
 210 215 220  
 15 Glu Thr Ser Leu Tyr Gln Leu Gln Phe Lys Glu Lys Ala Ser Ser Leu  
 225 230 235 240  
 20 Arg Ile Ile Ser Ala Val Ile Glu Ser Met Lys Tyr Trp Arg Glu His  
 245 250 255  
 Ala Gln Lys Thr Val Leu Leu Phe Glu Val Leu Ala Val Leu Asp Ser  
 260 265 270  
 25 Ala Val Thr Pro Gly Pro Tyr Tyr Ser Lys Thr Phe Leu Met Arg Asp  
 275 280 285  
 Gly Lys Asn Thr Leu Pro Cys Val Phe Tyr Glu Ile Asp Arg Glu Leu  
 290 295 300  
 30 Pro Arg Leu Ile Arg Gly Arg Val His Arg Cys Val Gly Asn Tyr Asp  
 305 310 315 320  
 35 Gln Lys Lys Asn Ile Phe Gln Cys Val Ser Val Arg Pro Ala Ser Val  
 325 330 335  
 Ser Glu Gln Lys Thr Phe Gln Ala Phe Val Lys Ile Ala Asp Val Glu  
 340 345 350  
 40 Met Gln Tyr Tyr Ile Asn Val Met Asn Glu Thr  
 355 360

45

(2) INFORMATION FOR SEQ ID NO: 473:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 45 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 473:

50

55 Ser Gln Asp Ser Val Phe Asn Ser Ile Gln Ser Asn Thr Gly Arg Ser  
 1 5 10 15  
 Gln Gly Gly Trp Ser Tyr Arg Asp Gly Asn Lys Asn Thr Ser Leu Lys  
 20 25 30  
 60 Thr Trp Xaa Lys Asn Asp Phe Lys Pro Gln Cys Lys Arg

35

40

45

## 5 (2) INFORMATION FOR SEQ ID NO: 474:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 36 amino acids

(B) TYPE: amino acid

10 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 474:

Asn Lys Glu Thr Glu Leu Leu Arg Gln Thr His Ser Ser Lys Ile Ser  
 1 5 10 15

15

Gly Cys Thr Met Arg Gly Leu Asp Lys Asn Ser Ala Leu Gln Thr Leu  
 20 25 30

20

Lys Pro Asn Phe  
 35

25

## (2) INFORMATION FOR SEQ ID NO: 475:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 49 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## 30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 475:

Ser Ser Leu Arg Ile Ile Ser Ala Val Ile Glu Ser Met Lys Tyr Trp  
 1 5 10 15

35

Arg Glu His Ala Gln Lys Thr Val Leu Leu Phe Glu Val Leu Ala Val  
 20 25 30

40

Leu Asp Ser Ala Val Thr Pro Gly Pro Tyr Tyr Ser Lys Thr Phe Leu  
 35 40 45

Met

45

## (2) INFORMATION FOR SEQ ID NO: 476:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 42 amino acids

50 (B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 476:

55

Pro Arg Leu Ile Arg Gly Arg Val His Arg Cys Val Gly Asn Tyr Asp  
 1 5 10 15

Gln Lys Lys Asn Ile Phe Gln Cys Val Ser Val Arg Pro Ala Ser Val  
 20 25 30

60

Ser Glu Gln Lys Thr Phe Gln Ala Phe Val

35

40

## 5 (2) INFORMATION FOR SEQ ID NO: 477:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 370 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

10

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 477:

Gly Val Phe Arg Pro Cys Val Cys Gly Arg Pro Ala Ser Leu Thr Cys  
 1 5 10 15  
 Ser Pro Leu Asp Pro Glu Val Gly Pro Tyr Cys Asp Thr Pro Thr Met  
 20 25 30  
 Arg Thr Leu Phe Asn Leu Leu Trp Leu Ala Leu Ala Cys Ser Pro Val  
 35 40 45  
 His Thr Thr Leu Ser Lys Ser Asp Ala Lys Lys Ala Ala Ser Lys Thr  
 50 55 60  
 Leu Leu Glu Lys Ser Gln Phe Ser Asp Lys Pro Val Gln Asp Arg Gly  
 65 70 75 80  
 Leu Val Val Thr Asp Leu Lys Ala Glu Ser Val Val Leu Glu His Arg  
 85 90 95  
 Ser Tyr Cys Ser Ala Lys Ala Arg Asp Arg His Phe Ala Gly Asp Val  
 100 105 110  
 Leu Gly Tyr Val Thr Pro Trp Asn Ser His Gly Tyr Asp Val Thr Lys  
 115 120 125  
 Val Phe Gly Ser Lys Phe Thr Gln Ile Ser Pro Val Trp Leu Gln Leu  
 130 135 140  
 Lys Arg Arg Gly Arg Glu Met Phe Glu Val Thr Gly Leu His Asp Val  
 145 150 155 160  
 Asp Gln Gly Trp Met Arg Ala Val Arg Lys His Ala Lys Gly Leu His  
 165 170 175  
 Ile Val Pro Arg Leu Leu Phe Glu Asp Trp Thr Tyr Asp Asp Phe Arg  
 180 185 190  
 Asn Val Leu Asp Ser Glu Asp Glu Ile Glu Glu Leu Ser Lys Thr Val  
 195 200 205  
 Val Gln Val Ala Lys Asn Gln His Phe Asp Gly Phe Val Val Glu Val  
 210 215 220  
 Trp Asn Gln Leu Leu Ser Gln Lys Arg Val Gly Leu Ile His Met Leu  
 225 230 235 240  
 Thr His Leu Ala Glu Ala Leu His Gln Ala Arg Leu Leu Ala Leu Leu  
 245 250 255

60

608

Val Ile Pro Pro Ala Ile Thr Pro Gly Thr Asp Gln Leu Gly Met Phe  
                   260                  265                  270

5 Thr His Lys Glu Phe Glu Gln Leu Ala Pro Val Leu Asp Gly Phe Ser  
                   275                  280                  285

Leu Met Thr Tyr Asp Tyr Ser Thr Ala His Gln Pro Gly Pro Asn Ala  
                   290                  295                  300

10 Pro Leu Ser Trp Val Arg Ala Cys Val Gln Val Leu Asp Pro Lys Xaa  
                   305                  310                  315                  320

Lys Trp Arg Thr Lys Ser Ser Trp Gly Ser Thr Ser Met Xaa Trp Thr  
                   325                  330                  335

15 Xaa Arg Xaa Pro Xaa Asp Ala Arg Xaa Pro Val Val Gly Xaa Arg Xaa  
                   340                  345                  350

Ile Gln Xaa Leu Lys Asp His Xaa Pro Arg Met Val Leu Asp Ser Lys  
                   355                  360                  365

20 Pro Gln  
                   370

25

(2) INFORMATION FOR SEQ ID NO: 478:

30 (i) SEQUENCE CHARACTERISTICS:  
           (A) LENGTH: 39 amino acids  
           (B) TYPE: amino acid  
           (D) TOPOLOGY: linear  
       (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 478:

35 Thr Cys Ser Pro Leu Asp Pro Glu Val Gly Pro Tyr Cys Asp Thr Pro  
       1                  5                  10                  15

Thr Met Arg Thr Leu Phe Asn Leu Leu Trp Leu Ala Leu Ala Cys Ser  
                   20                  25                  30

40 Pro Val His Thr Thr Leu Ser  
                   35

45

(2) INFORMATION FOR SEQ ID NO: 479:

50 (i) SEQUENCE CHARACTERISTICS:  
           (A) LENGTH: 54 amino acids  
           (B) TYPE: amino acid  
           (D) TOPOLOGY: linear  
       (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 479:

55 Leu Val Val Thr Asp Leu Lys Ala Glu Ser Val Val Leu Glu His Arg  
       1                  5                  10                  15

Ser Tyr Cys Ser Ala Lys Ala Arg Asp Arg His Phe Ala Gly Asp Val  
                   20                  25                  30

60 Leu Gly Tyr Val Thr Pro Trp Asn Ser His Gly Tyr Asp Val Thr Lys



35 40 45  
Val Phe Gly Ser Lys Phe  
50  
5

(2) INFORMATION FOR SEQ ID NO: 480:

- 10 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 52 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 480:

15 Arg Glu Met Phe Glu Val Thr Gly Leu His Asp Val Asp Gln Gly Trp  
1 5 10 15  
20 Met Arg Ala Val Arg Lys His Ala Lys Gly Leu His Ile Val Pro Arg  
20 25 30  
Leu Leu Phe Glu Asp Trp Thr Tyr Asp Asp Phe Arg Asn Val Leu Asp  
35 40 45  
25 Ser Glu Asp Glu  
50

30 (2) INFORMATION FOR SEQ ID NO: 481:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 56 amino acids  
(B) TYPE: amino acid  
35 (D) TOPOLOGY: linear  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 481:

His Phe Asp Gly Phe Val Val Glu Val Trp Asn Gln Leu Leu Ser Gln  
1 5 10 15  
40 Lys Arg Val Gly Leu Ile His Met Leu Thr His Leu Ala Glu Ala Leu  
20 25 30  
His Gln Ala Arg Leu Leu Ala Leu Leu Val Ile Pro Pro Ala Ile Thr  
45 35 40 45  
Pro Gly Thr Asp Gln Leu Gly Met  
50 55

50

(2) INFORMATION FOR SEQ ID NO: 482:

- (i) SEQUENCE CHARACTERISTICS:  
55 (A) LENGTH: 47 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 482:

60 Asp Gly Phe Ser Leu Met Thr Tyr Asp Tyr Ser Thr Ala His Gln Pro

610

1                      5                      10                      15  
 Gly Pro Asn Ala Pro Leu Ser Trp Val Arg Ala Cys Val Gln Val Leu  
                     20                      25                      30  
 5 Asp Pro Lys Xaa Lys Trp Arg Thr Lys Ser Ser Trp Gly Ser Thr  
                     35                      40                      45

10

(2) INFORMATION FOR SEQ ID NO: 483:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 152 amino acids  
 15 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 483:

20 Glu Arg Gly Val Ser Ile Asn Gln Phe Cys Lys Glu Phe Asn Glu Arg  
      1                      5                      10                      15  
 Thr Lys Asp Ile Lys Glu Gly Ile Pro Leu Pro Thr Lys Ile Leu Val  
                     20                      25                      30  
 25 Lys Pro Asp Arg Thr Phe Glu Ile Lys Ile Gly Gln Pro Thr Val Ser  
                     35                      40                      45  
 Tyr Phe Leu Lys Ala Ala Ala Gly Ile Glu Lys Gly Ala Arg Gln Thr  
                     50                      55                      60  
 30 Gly Lys Glu Val Ala Gly Leu Val Thr Leu Lys His Val Tyr Glu Ile  
                     65                      70                      75                      80  
 Ala Arg Ile Lys Ala Gln Asp Glu Ala Phe Ala Leu Gln Asp Val Pro  
 35                      85                      90                      95  
 Leu Ser Ser Val Val Arg Ser Ile Ile Gly Ser Ala Arg Ser Leu Gly  
                     100                      105                      110  
 40 Ile Arg Val Val Lys Asp Leu Ser Ser Glu Glu Leu Ala Ala Phe Gln  
                     115                      120                      125  
 Lys Glu Arg Ala Ile Phe Leu Ala Ala Gln Lys Glu Ala Asp Leu Ala  
                     130                      135                      140  
 45 Ala Gln Glu Glu Ala Ala Lys Lys  
                     145                      150

50

(2) INFORMATION FOR SEQ ID NO: 484:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 270 amino acids  
 55 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 484:

60 Ala Val Tyr Thr Tyr His Glu Lys Lys Lys Asp Thr Ala Ala Ser Gly  
      1                      5                      10                      15

611

Tyr Gly Thr Gln Asn Ile Arg Leu Ser Arg Asp Ala Val Lys Asp Phe  
 20 25 30  
 5 Asp Cys Cys Cys Leu Ser Leu Gln Pro Cys His Asp Pro Val Val Thr  
 35 40 45  
 Pro Asp Gly Tyr Leu Tyr Glu Arg Glu Ala Ile Leu Glu Tyr Ile Leu  
 50 55 60  
 10 His Gln Lys Lys Glu Ile Ala Arg Gln Met Lys Ala Tyr Glu Lys Gln  
 65 70 75 80  
 Arg Gly Thr Arg Arg Glu Glu Gln Lys Glu Leu Gln Arg Ala Ala Ser  
 85 90 95  
 15 Gln Asp His Val Arg Gly Phe Leu Glu Lys Glu Ser Ala Ile Val Ser  
 100 105 110  
 Arg Pro Leu Asn Pro Phe Thr Ala Lys Ala Leu Ser Gly Thr Ser Pro  
 115 120 125  
 Asp Asp Val Gln Pro Gly Pro Ser Val Gly Pro Pro Ser Lys Asp Lys  
 130 135 140  
 25 Asp Lys Val Leu Pro Ser Phe Trp Ile Pro Ser Leu Thr Pro Glu Ala  
 145 150 155 160  
 Lys Ala Thr Lys Leu Glu Lys Pro Ser Arg Thr Val Thr Cys Pro Met  
 165 170 175  
 30 Ser Gly Lys Pro Leu Arg Met Ser Asp Leu Thr Pro Val His Phe Thr  
 180 185 190  
 Pro Leu Asp Ser Ser Val Asp Arg Val Gly Leu Ile Thr Arg Ser Glu  
 195 200 205  
 Arg Tyr Val Cys Ala Val Thr Arg Asp Ser Leu Ser Asn Ala Thr Pro  
 210 215 220  
 40 Cys Ala Val Leu Arg Pro Ser Gly Ala Val Val Thr Leu Glu Cys Val  
 225 230 235 240  
 Glu Lys Leu Ile Arg Lys Asp Met Val Asp Pro Val Thr Gly Asp Lys  
 245 250 255  
 45 Leu Thr Asp Arg Asp Ile Ile Val Leu Gln Arg Gly Gly Thr  
 260 265 270  
 50

(2) INFORMATION FOR SEQ ID NO: 485:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 54 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 485:

55  
 60 Tyr Leu Tyr Glu Arg Glu Ala Ile Leu Glu Tyr Ile Leu His Gln Lys

1                      5                      10                      15  
 Lys Glu Ile Ala Arg Gln Met Lys Ala Tyr Glu Lys Gln Arg Gly Thr  
                     20                      25                      30  
 5 Arg Arg Glu Glu Gln Lys Glu Leu Gln Arg Ala Ala Ser Gln Asp His  
                     35                      40                      45  
 10 Val Arg Gly Phe Leu Glu  
                     50

15 (2) INFORMATION FOR SEQ ID NO: 486:  
       (i) SEQUENCE CHARACTERISTICS:  
           (A) LENGTH: 64 amino acids  
           (B) TYPE: amino acid  
           (D) TOPOLOGY: linear  
 20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 486:

Phe Thr Ala Lys Ala Leu Ser Gly Thr Ser Pro Asp Asp Val Gln Pro  
   1                      5                      10                      15  
 25 Gly Pro Ser Val Gly Pro Pro Ser Lys Asp Lys Asp Lys Val Leu Pro  
                     20                      25                      30  
 Ser Phe Trp Ile Pro Ser Leu Thr Pro Glu Ala Lys Ala Thr Lys Leu  
                     35                      40                      45  
 30 Glu Lys Pro Ser Arg Thr Val Thr Cys Pro Met Ser Gly Lys Pro Leu  
                     50                      55                      60

35  
 40 (2) INFORMATION FOR SEQ ID NO: 487:  
       (i) SEQUENCE CHARACTERISTICS:  
           (A) LENGTH: 56 amino acids  
           (B) TYPE: amino acid  
           (D) TOPOLOGY: linear  
 45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 487:

Val His Phe Thr Pro Leu Asp Ser Ser Val Asp Arg Val Gly Leu Ile  
   1                      5                      10                      15  
 50 Thr Arg Ser Glu Arg Tyr Val Cys Ala Val Thr Arg Asp Ser Leu Ser  
                     20                      25                      30  
 Asn Ala Thr Pro Cys Ala Val Leu Arg Pro Ser Gly Ala Val Val Thr  
                     35                      40                      45  
 55 Leu Glu Cys Val Glu Lys Leu Ile  
                     50                      55

60

## (2) INFORMATION FOR SEQ ID NO: 488:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 567 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 488:

5 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 567 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 488:

10 Met Asp Thr Ser Glu Asn Arg Pro Glu Asn Asp Val Pro Glu Pro Pro  
 1 5 10 15  
 Met Pro Ile Ala Asp Gln Val Ser Asn Asp Asp Arg Pro Glu Gly Ser  
 20 25 30  
 15 Val Glu Asp Glu Glu Lys Lys Glu Ser Ser Leu Pro Lys Ser Phe Lys  
 35 40 45  
 Arg Lys Ile Ser Val Val Ser Ala Thr Lys Gly Val Pro Ala Gly Asn  
 50 55 60  
 20 Ser Asp Thr Glu Gly Gly Gln Pro Gly Arg Lys Arg Arg Trp Gly Ala  
 65 70 75 80  
 Ser Thr Ala Thr Thr Gln Lys Lys Pro Ser Ile Ser Ile Thr Thr Glu  
 25 85 90 95  
 Ser Leu Lys Ser Leu Ile Pro Asp Ile Lys Pro Leu Ala Gly Gln Glu  
 100 105 110  
 30 Ala Val Val Asp Leu His Ala Asp Asp Ser Arg Ile Ser Glu Asp Glu  
 115 120 125  
 Thr Glu Arg Asn Gly Asp Asp Gly Thr His Asp Lys Gly Leu Lys Ile  
 130 135 140  
 35 Cys Arg Thr Val Thr Gln Val Val Pro Ala Glu Gly Gln Glu Asn Gly  
 145 150 155 160  
 Gln Arg Glu Glu Glu Glu Glu Lys Glu Pro Glu Ala Glu Pro Pro  
 40 165 170 175  
 Val Pro Pro Gln Val Ser Val Glu Val Ala Leu Pro Pro Pro Ala Glu  
 180 185 190  
 45 His Glu Val Lys Lys Val Thr Leu Gly Asp Thr Leu Thr Arg Arg Ser  
 195 200 205  
 Ile Ser Gln Gln Lys Ser Gly Val Ser Ile Thr Ile Asp Asp Pro Val  
 210 215 220  
 50 Arg Thr Ala Gln Val Pro Ser Pro Pro Arg Gly Lys Ile Ser Asn Ile  
 225 230 235 240  
 Val His Ile Ser Asn Leu Val Arg Pro Phe Thr Leu Gly Gln Leu Lys  
 245 250 255  
 Glu Leu Leu Gly Arg Thr Gly Thr Leu Val Glu Glu Ala Phe Trp Ile  
 260 265 270  
 60 Asp Lys Ile Lys Ser His Cys Phe Val Thr Tyr Ser Thr Val Glu Glu

614

	275	280	285
	Ala Val Ala Thr Arg Thr	Ala Leu His Gly Val	Lys Trp Pro Gln Ser
	290	295	300
5	Asn Pro Lys Phe Leu Cys Ala Asp Tyr Ala	Glu Gln Asp Glu Leu Asp	
	305	310	315 320
10	Tyr His Arg Gly Leu Leu Val Asp Arg Pro Ser	Glu Thr Lys Thr Glu	
	325	330	335
	Glu Gln Gly Ile Pro Arg Pro Leu His Pro Pro Pro Pro Pro Pro Val		
	340	345	350
15	Gln Pro Pro Gln His Pro Arg Ala Glu Gln Arg Glu Gln Glu Arg Ala		
	355	360	365
	Val Arg Glu Gln Trp Ala Glu Arg Glu Arg Glu Met Glu Arg Arg Glu		
	370	375	380
20	Arg Thr Arg Ser Glu Arg Glu Trp Asp Arg Asp Lys Val Arg Glu Gly		
	385	390	395 400
	Pro Arg Ser Arg Ser Arg Ser Arg Xaa Arg Arg Arg Lys Glu Arg Ala		
25	405	410	415
	Lys Ser Lys Glu Lys Lys Ser Glu Lys Lys Glu Lys Ala Gln Glu Glu		
	420	425	430
30	Pro Pro Ala Lys Leu Leu Asp Asp Leu Phe Arg Lys Thr Lys Ala Ala		
	435	440	445
	Pro Cys Ile Tyr Trp Leu Pro Leu Thr Asp Ser Gln Ile Val Gln Lys		
	450	455	460
35	Glu Ala Glu Arg Ala Glu Arg Ala Lys Glu Arg Glu Lys Arg Arg Lys		
	465	470	475 480
	Glu Gln Glu Glu Glu Glu Gln Lys Glu Arg Glu Lys Glu Ala Glu Arg		
40	485	490	495
	Glu Arg Asn Arg Gln Leu Glu Arg Glu Lys Arg Arg Glu His Ser Arg		
	500	505	510
45	Glu Arg Asp Arg Glu Arg Glu Arg Glu Arg Glu Arg Asp Arg Gly Asp		
	515	520	525
	Arg Asp Arg Asp Arg Glu Arg Asp Arg Glu Arg Gly Arg Glu Arg Asp		
	530	535	540
50	Arg Arg Asp Thr Lys Arg His Ser Arg Ser Arg Ser Arg Ser Thr Pro		
	545	550	555 560
	Val Arg Asp Arg Gly Gly Arg		
55	565		

(2) INFORMATION FOR SEQ ID NO: 489:

60

615

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 51 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## 5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 489:

Gly Cys Asp Ser Cys Pro Pro His Leu Pro Arg Glu Ala Phe Ala Gln  
 1 5 10 15

10 Asp Thr Gln Ala Glu Gly Glu Cys Ser Ser Arg Ala Glu Arg Ala Asp  
 20 25 30

Met Cys Pro Asp Ala Pro Pro Ser Gln Glu Val Pro Glu Gly Pro Gly  
 35 40 45

15 Ala Ala Pro  
 50

## 20 (2) INFORMATION FOR SEQ ID NO: 490:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 50 amino acids

25 (B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 490:

30 Pro Gln Leu Pro Ser Cys Gly Arg Pro Trp Pro Gly Thr Ala Ser Val  
 1 5 10 15

Phe Gln Ser His Thr Gln Gly Pro Arg Glu Asp Pro Asp Pro Cys Arg  
 20 25 30

35 Ala Gln Gly Ser Ala Gly Thr His Cys Pro Ile Ser Leu Ser Pro Pro  
 35 40 45

Arg Gln  
 50

## 40 (2) INFORMATION FOR SEQ ID NO: 491:

## 45 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 42 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## 50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 491:

Pro Gly Phe Arg Gly Pro Ser Gly Ser Leu Gly Cys Ser Phe Phe Pro  
 1 5 10 15

55 Arg Ser Leu Gly Arg Val Leu Pro Pro Gly Cys Gln Arg Pro Gly Ala  
 20 25 30

His Ala Asp Ser Ser Pro Pro Thr Pro  
 35 40

60

## (2) INFORMATION FOR SEQ ID NO: 492:

5 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 84 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 492:

10 Glu Asp Leu Lys Lys Pro Asp Pro Ala Ser Leu Arg Ala Ala Ser Cys  
 1 5 10 15  
 Gly Glu Gly Lys Lys Arg Lys Ala Cys Lys Asn Cys Thr Cys Gly Leu  
 20 25 30  
 15 Ala Glu Glu Leu Glu Lys Glu Lys Ser Arg Glu Gln Met Ser Ser Gln  
 35 40 45  
 Pro Lys Ser Ala Cys Gly Asn Cys Tyr Leu Gly Asp Ala Phe Arg Cys  
 20 50 55 60  
 Ala Ser Cys Pro Tyr Leu Gly Met Pro Ala Phe Lys Pro Gly Glu Lys  
 65 70 75 80  
 25 Val Leu Leu Ser

## 30 (2) INFORMATION FOR SEQ ID NO: 493:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 90 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 493:

35 Glu Asp Leu Lys Lys Pro Asp Pro Ala Ser Leu Arg Ala Ala Ser Cys  
 1 5 10 15  
 40 Gly Glu Gly Lys Lys Arg Lys Ala Cys Lys Asn Cys Thr Cys Gly Leu  
 20 25 30  
 Ala Glu Glu Leu Glu Lys Glu Lys Ser Arg Glu Gln Met Ser Ser Gln  
 45 35 40 45  
 Pro Lys Ser Ala Cys Gly Asn Cys Tyr Leu Gly Asp Ala Phe Arg Cys  
 50 55 60  
 50 Ala Ser Cys Pro Tyr Leu Gly Met Pro Ala Phe Lys Pro Gly Glu Lys  
 65 70 75 80  
 Val Leu Leu Ser Asp Ser Asn Leu His Asp  
 85 90  
 55

## (2) INFORMATION FOR SEQ ID NO: 494:

60 (i) SEQUENCE CHARACTERISTICS:



617

(A) LENGTH: 34 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 494:

5

Cys Gly Asn Cys Tyr Leu Gly Asp Ala Phe Arg Cys Ala Ser Cys Pro  
 1 5 10 15

10

Tyr Leu Gly Met Pro Ala Phe Lys Pro Gly Glu Lys Val Leu Leu Ser  
 20 25 30

Asp Ser

15

(2) INFORMATION FOR SEQ ID NO: 495:

20

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 25 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 495:

25

Ser Cys Gly Glu Gly Lys Lys Arg Lys Ala Cys Lys Asn Cys Thr Cys  
 1 5 10 15

Gly Leu Ala Glu Glu Leu Glu Lys Glu  
 20 25

30

(2) INFORMATION FOR SEQ ID NO: 496:

35

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 21 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 496:

40

Ser Gln Pro Lys Ser Ala Cys Gly Asn Cys Tyr Leu Gly Asp Ala Phe  
 1 5 10 15

45

Arg Cys Ala Ser Cys  
 20

(2) INFORMATION FOR SEQ ID NO: 497:

50

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 17 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 497:

Arg Glu Ala Gly Gln Asn Ser Glu Arg Gln Tyr Val Ser Leu Ser Arg  
 1 5 10 15

60

Asp

## 5 (2) INFORMATION FOR SEQ ID NO: 498:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 90 amino acids

(B) TYPE: amino acid

10 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 498:

15 Glu Ser Ser Gly Gln Ala Arg Thr Leu Ala Asp Pro Gly Pro Gly Trp  
     1                    5                    10                    15  
 20 Pro Arg Gln Gln Gly Met Cys Phe Gly Ser Leu Thr Gly Leu Ser Thr  
                     20                    25                    30  
 25 Thr Pro His Gly Phe Leu Thr Val Ser Ala Glu Ala Asp Pro Arg Leu  
                     35                    40                    45  
 30 Ile Glu Ser Leu Ser Gln Met Leu Ser Met Gly Phe Ser Asp Glu Gly  
                     50                    55                    60  
 35 Gly Trp Leu Thr Arg Leu Leu Gln Thr Lys Asn Tyr Asp Ile Gly Ala  
                     65                    70                    75                    80  
 40 Ala Leu Asp Thr Ile Gln Tyr Ser Lys His  
                     85                    90

## (2) INFORMATION FOR SEQ ID NO: 499:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 159 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 499:

40 Gln Glu Gly Ser Glu Pro Val Leu Leu Glu Gly Glu Cys Leu Val Val  
     1                    5                    10                    15  
 45 Cys Glu Pro Gly Arg Ala Ala Ala Gly Gly Pro Gly Gly Ala Ala Leu  
                     20                    25                    30  
 50 Gly Glu Ala Pro Pro Gly Arg Val Ala Phe Xaa Ala Val Arg Ser His  
                     35                    40                    45  
 55 His His Glu Pro Ala Gly Glu Thr Gly Asn Gly Thr Ser Gly Ala Ile  
                     50                    55                    60  
 60 Tyr Phe Asp Gln Val Leu Val Asn Glu Gly Gly Gly Phe Asp Arg Ala  
                     65                    70                    75                    80  
 65 Ser Gly Ser Phe Val Ala Pro Val Arg Gly Val Tyr Ser Phe Arg Phe  
                     85                    90                    95  
 70 His Val Val Lys Val Tyr Asn Arg Gln Thr Val Gln Val Ser Leu Met  
                     100                    105                    110

Leu Asn Thr Trp Pro Val Ile Ser Ala Phe Ala Asn Asp Pro Asp Val  
 115 120 125  
 5 Thr Arg Glu Ala Ala Thr Ser Ser Val Leu Leu Pro Leu Asp Pro Gly  
 130 135 140  
 Asp Arg Val Ser Leu Arg Leu Arg Arg Gly Xaa Ser Thr Gly Trp  
 145 150 155  
 10

## (2) INFORMATION FOR SEQ ID NO: 500:

15 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 32 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 500:  
 20

Pro Arg Ser Arg Pro Ala Leu Arg Pro Gly Arg Gln Arg Pro Pro Ser  
 1 5 10 15  
 His Ser Ala Thr Ser Gly Val Leu Arg Pro Arg Lys Lys Pro Asp Pro  
 25 20 25 30  
 30

## (2) INFORMATION FOR SEQ ID NO: 501:

35 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 31 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 501:

40 Met Thr Leu Ile Thr Pro Ser Xaa Lys Leu Thr Phe Xaa Lys Gly Asn  
 1 5 10 15  
 Lys Ser Trp Ser Ser Arg Ala Cys Ser Ser Thr Leu Val Asp Pro  
 20 25 30  
 45

## (2) INFORMATION FOR SEQ ID NO: 502:

50 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 51 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 502:  
 55

Gly His Pro Ser Pro Ala Leu Ser Ile Ala Pro Ser Asp Gly Ser Gln  
 1 5 10 15  
 Leu Pro Cys Asp Glu Val Pro Tyr Gly Glu Ala His Val Thr Arg Tyr  
 20 25 30  
 60

620

Cys Lys Lys Pro Leu Thr Asn Ser His Leu Glu Thr Glu Ala Gln Ser  
35 40 45

5 Ser Ser Leu  
50

10 (2) INFORMATION FOR SEQ ID NO: 503:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 263 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double  
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 503:

20 GCTTCGTGTC CAACCTCTT GCCCTTCGCC TGTGTGCCTG GAGCCAGTCC CACCACGCTC 60  
GCGTTTCCTC CTGTAGTGCT CACAGGTCCC AGCACCGATG GCATTCCCTT TGCCCTGAGT 120  
CTGCAGCGGG TCCCTTTTGT GCTTCCTTCC CCTCAGGTAG CCTCTCTCCC CCTGGGCCAC 180  
25 TCCCGGGGGT GAGGGGGTTA CCCCTTCCCA GTGTTTTTTA TTCTGTGGG GCTCACCCCA 240  
AAGTATTAAA AGTAGCTTTG TAA 263

30

(2) INFORMATION FOR SEQ ID NO: 504:

35 (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 263 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double  
(D) TOPOLOGY: linear

40

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 504:

GCTTCGTGTC CAACCTCTT GCCCTTCGCC TGTGTGCCTG GAGCCAGTCC CACCACGCTC 60  
45 GCGTTTCCTC CTGTAGTGCT CACAGGTCCC AGCACCGATG GCATTCCCTT TGCCCTGAGT 120  
CTGCAGCGGG TCCCTTTTGT GCTTCCTTCC CCTCAGGTAG CCTCTCTCCC CCTGGGCCAC 180  
TCCCGGGGGT GAGGGGGTTA CCCCTTCCCA GTGTTTTTTA TTCTGTGGG GCTCACCCCA 240  
50 AAGTATTAAA AGTAGCTTTG TAA 263

55

(2) INFORMATION FOR SEQ ID NO: 505:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 263 base pairs  
(B) TYPE: nucleic acid

60

621

(C) STRANDEDNESS: double  
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 505:

5 GCTTCGTGTC CAACCTCTT GCCCTTCGCC TGTGTGCCTG GAGCCAGTCC CACCACGCTC 60  
GCGTTTCCTC CTGTAGTGCT CACAGGTCCC AGCACCGATG GCATTCCCTT TGCCCTGAGT 120  
10 CTGCAGCGGG TCCCTTTTGT GCTTCCTTCC CCTCAGGTAG CCTCTCTCCC CCTGGGCCAC 180  
TCCCGGGGGT GAGGGGGTTA CCCCTTCCCA GTGTTTMTTA TTCCTGTGGG GTCACCCCA 240  
AAGTATTAAA AGTAGCTTTG TAA 263  
15

(2) INFORMATION FOR SEQ ID NO: 506:

20 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 160 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double  
25 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 506:

30 TGGCTCACTG TCTTACAATC ACTGCTGTGG AATCATGATA CCACTTTTAG CTCTTTGCAT 60  
CTTCCTTCAG TGTATTTTIG TTTTCAAGA GGAAGTAGAT TTAACTGGA CAACTTTGAG 120  
TACTGACATC ATTGATAAAT AAACGGCTT GTGGTTTCAA 160  
35

(2) INFORMATION FOR SEQ ID NO: 507:

40 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 292 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 507:

45 Leu Asp Glu Leu Met Ala His Leu Thr Glu Met Gln Ala Lys Val Ala  
1 5 10 15  
50 Val Arg Ala Asp Ala Gly Lys Lys His Leu Pro Asp Lys Gln Asp His  
20 25 30  
Lys Ala Ser Leu Asp Ser Met Leu Gly Gly Leu Glu Gln Glu Leu Gln  
35 40 45  
55 Asp Leu Gly Ile Ala Thr Val Pro Lys Gly His Cys Ala Ser Cys Gln  
50 55 60  
Lys Pro Ile Ala Gly Lys Val Ile His Ala Leu Gly Gln Ser Trp His  
65 70 75 80  
60

622

Pro Glu His Phe Val Cys Thr His Cys Lys Glu Glu Ile Gly Ser Ser  
85 90 95

5 Pro Phe Phe Glu Arg Ser Gly Leu Xaa Tyr Cys Pro Asn Asp Tyr His  
100 105 110

Gln Leu Phe Ser Pro Arg Cys Ala Tyr Cys Ala Ala Pro Ile Leu Asp  
115 120 125

10 Lys Val Leu Thr Ala Met Asn Gln Thr Trp His Pro Glu His Phe Phe  
130 135 140

Cys Ser His Cys Gly Glu Val Phe Gly Ala Glu Gly Phe His Glu Lys  
145 150 155 160

15 Asp Lys Lys Pro Tyr Cys Arg Lys Asp Phe Leu Ala Met Phe Ser Pro  
165 170 175

20 Lys Cys Gly Gly Cys Asn Arg Pro Val Leu Glu Asn Tyr Leu Ser Ala  
180 185 190

Met Asp Thr Val Trp His Pro Glu Cys Phe Val Cys Gly Asp Cys Phe  
195 200 205

25 Thr Ser Phe Ser Thr Gly Ser Phe Phe Glu Leu Asp Gly Arg Pro Phe  
210 215 220

Cys Glu Leu His Tyr His His Arg Arg Gly Thr Leu Cys His Gly Cys  
225 230 235 240

30 Gly Gln Pro Ile Thr Gly Arg Cys Ile Ser Ala Met Gly Tyr Lys Phe  
245 250 255

35 His Pro Glu His Phe Val Cys Ala Phe Cys Leu Thr Gln Leu Ser Lys  
260 265 270

Gly Ile Phe Arg Glu Gln Asn Asp Lys Thr Tyr Cys Gln Pro Cys Phe  
275 280 285

40 Asn Lys Leu Phe  
290

45 (2) INFORMATION FOR SEQ ID NO: 508:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 43 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 508:

Lys Ala Ser Leu Asp Ser Met Leu Gly Gly Leu Glu Gln Glu Leu Gln  
1 5 10 15

55 Asp Leu Gly Ile Ala Thr Val Pro Lys Gly His Cys Ala Ser Cys Gln  
20 25 30

60 Lys Pro Ile Ala Gly Lys Val Ile His Ala Leu  
35 40

## (2) INFORMATION FOR SEQ ID NO: 509:

5

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 50 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

10

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 509:

Cys Pro Asn Asp Tyr His Gln Leu Phe Ser Pro Arg Cys Ala Tyr Cys  
 1 5 10 15

15

Ala Ala Pro Ile Leu Asp Lys Val Leu Thr Ala Met Asn Gln Thr Trp  
 20 25 30

His Pro Glu His Phe Phe Cys Ser His Cys Gly Glu Val Phe Gly Ala  
 35 40 45

20

Glu Gly  
 50

25

## (2) INFORMATION FOR SEQ ID NO: 510:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 67 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

30

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 510:

Asp Lys Lys Pro Tyr Cys Arg Lys Asp Phe Leu Ala Met Phe Ser Pro  
 1 5 10 15

35

Lys Cys Gly Gly Cys Asn Arg Pro Val Leu Glu Asn Tyr Leu Ser Ala  
 20 25 30

40

Met Asp Thr Val Trp His Pro Glu Cys Phe Val Cys Gly Asp Cys Phe  
 35 40 45

Thr Ser Phe Ser Thr Gly Ser Phe Phe Glu Leu Asp Gly Arg Pro Phe  
 50 55 60

45

Cys Glu Leu  
 65

50

## (2) INFORMATION FOR SEQ ID NO: 511:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 46 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

55

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 511:

Cys Gly Gln Pro Ile Thr Gly Arg Cys Ile Ser Ala Met Gly Tyr Lys  
 1 5 10 15

60

Phe His Pro Glu His Phe Val Cys Ala Phe Cys Leu Thr Gln Leu Ser  
20 25 30

5 Lys Gly Ile Phe Arg Glu Gln Asn Asp Lys Thr Tyr Cys Gln  
35 40 45

10 (2) INFORMATION FOR SEQ ID NO: 512:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 452 amino acids

(B) TYPE: amino acid

15 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 512:

Met Gly Ser Ser Gln Ser Val Glu Ile Pro Gly Gly Gly Thr Glu Gly  
1 5 10 15

20 Tyr His Val Leu Arg Val Gln Glu Asn Ser Pro Gly His Arg Ala Gly  
20 25 30

25 Leu Glu Pro Phe Phe Asp Phe Ile Val Ser Ile Asn Gly Ser Arg Leu  
35 40 45

Asn Lys Asp Asn Asp Thr Leu Lys Asp Leu Leu Lys Xaa Asn Val Glu  
50 55 60

30 Lys Pro Val Lys Met Leu Ile Tyr Ser Ser Lys Thr Leu Glu Leu Arg  
65 70 75 80

Glu Thr Ser Val Thr Pro Ser Asn Leu Trp Gly Gly Gln Gly Leu Leu  
85 90 95

35 Gly Val Ser Ile Arg Phe Cys Ser Phe Asp Gly Ala Asn Glu Asn Val  
100 105 110

40 Trp His Val Leu Glu Val Glu Ser Asn Ser Pro Ala Ala Leu Ala Gly  
115 120 125

Leu Arg Pro His Ser Asp Tyr Ile Ile Gly Ala Asp Thr Val Met Asn  
130 135 140

45 Glu Ser Glu Asp Leu Phe Ser Leu Ile Glu Thr His Glu Ala Lys Pro  
145 150 155 160

Leu Lys Leu Tyr Val Tyr Asn Thr Asp Thr Asp Asn Cys Arg Glu Val  
165 170 175

50 Ile Ile Thr Pro Asn Ser Ala Trp Gly Gly Glu Gly Ser Leu Gly Cys  
180 185 190

Gly Ile Gly Tyr Gly Tyr Leu His Arg Ile Pro Thr Arg Pro Phe Glu  
195 200 205

Glu Gly Lys Lys Ile Ser Leu Pro Gly Gln Met Ala Gly Thr Pro Ile  
210 215 220

60 Thr Pro Leu Lys Asp Gly Phe Thr Glu Val Gln Leu Ser Ser Val Asn



625

225                      230                      235                      240  
 Pro Pro Ser Leu Ser Pro Pro Gly Thr Thr Gly Ile Glu Gln Ser Leu  
                                  245                      250                      255  
 5 Thr Gly Leu Ser Ile Ser Ser Thr Pro Pro Ala Val Ser Ser Val Leu  
                                  260                      265                      270  
 Ser Thr Gly Val Pro Thr Val Pro Leu Leu Pro Pro Gln Val Asn Gln  
 10                      275                      280                      285  
 Ser Leu Thr Ser Val Pro Pro Met Asn Pro Ala Thr Thr Leu Pro Gly  
                                  290                      295                      300  
 15 Leu Met Pro Leu Pro Ala Gly Leu Pro Asn Leu Pro Asn Leu Asn Leu  
 305                      310                      315                      320  
 Asn Leu Pro Ala Pro His Ile Met Pro Gly Val Gly Leu Pro Glu Leu  
                                  325                      330                      335  
 20 Val Asn Pro Gly Leu Pro Pro Leu Pro Ser Met Pro Pro Arg Asn Leu  
                                  340                      345                      350  
 Pro Gly Ile Ala Pro Leu Pro Leu Pro Ser Glu Phe Leu Pro Ser Phe  
 25                      355                      360                      365  
 Pro Leu Val Pro Glu Ser Ser Ser Ala Ala Ser Ser Gly Glu Leu Leu  
                                  370                      375                      380  
 30 Ser Ser Leu Pro Pro Thr Ser Asn Ala Pro Ser Asp Pro Ala Thr Thr  
 385                      390                      395                      400  
 Thr Ala Lys Ala Asp Ala Ala Ser Ser Leu Thr Val Asp Val Thr Pro  
                                  405                      410                      415  
 35 Pro Thr Ala Lys Ala Pro Thr Thr Val Glu Asp Arg Val Gly Asp Ser  
                                  420                      425                      430  
 Thr Pro Val Ser Glu Lys Pro Val Ser Ala Ala Val Asp Ala Asn Ala  
 40                      435                      440                      445  
 Ser Glu Ser Pro  
                                  450

45

(2) INFORMATION FOR SEQ ID NO: 513:

50

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 109 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 513:

55

Ser Val Glu Ile Pro Gly Gly Gly Thr Glu Gly Tyr His Val Leu Arg  
 1                      5                      10                      15

Val Gln Glu Asn Ser Pro Gly His Arg Ala Gly Leu Glu Pro Phe Phe  
 20                      25                      30

60

626

Asp Phe Ile Val Ser Ile Asn Gly Ser Arg Leu Asn Lys Asp Asn Asp  
 35 40 45  
 5 Thr Leu Lys Asp Leu Leu Lys Xaa Asn Val Glu Lys Pro Val Lys Met  
 50 55 60  
 Leu Ile Tyr Ser Ser Lys Thr Leu Glu Leu Arg Glu Thr Ser Val Thr  
 65 70 75 80  
 10 Pro Ser Asn Leu Trp Gly Gly Gln Gly Leu Leu Gly Val Ser Ile Arg  
 85 90 95  
 Phe Cys Ser Phe Asp Gly Ala Asn Glu Asn Val Trp His  
 100 105  
 15

(2) INFORMATION FOR SEQ ID NO: 514:

20 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 145 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 514:  
 25

25 Glu Ser Asn Ser Pro Ala Ala Leu Ala Gly Leu Arg Pro His Ser Asp  
 1 5 10 15  
 30 Tyr Ile Ile Gly Ala Asp Thr Val Met Asn Glu Ser Glu Asp Leu Phe  
 20 25 30  
 Ser Leu Ile Glu Thr His Glu Ala Lys Pro Leu Lys Leu Tyr Val Tyr  
 35 35 40 45  
 35 Asn Thr Asp Thr Asp Asn Cys Arg Glu Val Ile Ile Thr Pro Asn Ser  
 50 55 60  
 Ala Trp Gly Gly Glu Gly Ser Leu Gly Cys Gly Ile Gly Tyr Gly Tyr  
 65 70 75 80  
 40 Leu His Arg Ile Pro Thr Arg Pro Phe Glu Glu Gly Lys Lys Ile Ser  
 85 90 95  
 45 Leu Pro Gly Gln Met Ala Gly Thr Pro Ile Thr Pro Leu Lys Asp Gly  
 100 105 110  
 Phe Thr Glu Val Gln Leu Ser Ser Val Asn Pro Pro Ser Leu Ser Pro  
 115 120 125  
 50 Pro Gly Thr Thr Gly Ile Glu Gln Ser Leu Thr Gly Leu Ser Ile Ser  
 130 135 140  
 Ser  
 145  
 55

(2) INFORMATION FOR SEQ ID NO: 515:

60 (i) SEQUENCE CHARACTERISTICS:

627

(A) LENGTH: 145 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 515:

5

Glu Ser Asn Ser Pro Ala Ala Leu Ala Gly Leu Arg Pro His Ser Asp  
1 5 10 15

10

Tyr Ile Ile Gly Ala Asp Thr Val Met Asn Glu Ser Glu Asp Leu Phe  
20 25 30

Ser Leu Ile Glu Thr His Glu Ala Lys Pro Leu Lys Leu Tyr Val Tyr  
35 40 45

15

Asn Thr Asp Thr Asp Asn Cys Arg Glu Val Ile Ile Thr Pro Asn Ser  
50 55 60

Ala Trp Gly Gly Glu Gly Ser Leu Gly Cys Gly Ile Gly Tyr Gly Tyr  
65 70 75 80

20

Leu His Arg Ile Pro Thr Arg Pro Phe Glu Glu Gly Lys Lys Ile Ser  
85 90 95

25

Leu Pro Gly Gln Met Ala Gly Thr Pro Ile Thr Pro Leu Lys Asp Gly  
100 105 110

Phe Thr Glu Val Gln Leu Ser Ser Val Asn Pro Pro Ser Leu Ser Pro  
115 120 125

30

Pro Gly Thr Thr Gly Ile Glu Gln Ser Leu Thr Gly Leu Ser Ile Ser  
130 135 140

Ser  
145

35

(2) INFORMATION FOR SEQ ID NO: 516:

40

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 151 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 516:

45

Arg Ile Pro Thr Arg Pro Phe Glu Glu Gly Lys Lys Ile Ser Leu Pro  
1 5 10 15

50

Gly Gln Met Ala Gly Thr Pro Ile Thr Pro Leu Lys Asp Gly Phe Thr  
20 25 30

Glu Val Gln Leu Ser Ser Val Asn Pro Pro Ser Leu Ser Pro Pro Gly  
35 40 45

55

Thr Thr Gly Ile Glu Gln Ser Leu Thr Gly Leu Ser Ile Ser Ser Thr  
50 55 60

Pro Pro Ala Val Ser Ser Val Leu Ser Thr Gly Val Pro Thr Val Pro  
65 70 75 80

60

628

Leu Leu Pro Pro Gln Val Asn Gln Ser Leu Thr Ser Val Pro Pro Met  
85 90 95

5 Asn Pro Ala Thr Thr Leu Pro Gly Leu Met Pro Leu Pro Ala Gly Leu  
100 105 110

Pro Asn Leu Pro Asn Leu Asn Leu Asn Leu Pro Ala Pro His Ile Met  
115 120 125

10 Pro Gly Val Gly Leu Pro Glu Leu Val Asn Pro Gly Leu Pro Pro Leu  
130 135 140

15 Pro Ser Met Pro Pro Arg Asn  
145 150

(2) INFORMATION FOR SEQ ID NO: 517:

20 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 109 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 517:

Pro Gly Leu Pro Pro Leu Pro Ser Met Pro Pro Arg Asn Leu Pro Gly  
1 5 10 15

30 Ile Ala Pro Leu Pro Leu Pro Ser Glu Phe Leu Pro Ser Phe Pro Leu  
20 25 30

Val Pro Glu Ser Ser Ser Ala Ala Ser Ser Gly Glu Leu Leu Ser Ser  
35 40 45

35 Leu Pro Pro Thr Ser Asn Ala Pro Ser Asp Pro Ala Thr Thr Thr Ala  
50 55 60

40 Lys Ala Asp Ala Ala Ser Ser Leu Thr Val Asp Val Thr Pro Pro Thr  
65 70 75 80

Ala Lys Ala Pro Thr Thr Val Glu Asp Arg Val Gly Asp Ser Thr Pro  
85 90 95

45 Val Ser Glu Lys Pro Val Ser Ala Ala Val Asp Ala Asn  
100 105

(2) INFORMATION FOR SEQ ID NO: 518:

50

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 93 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 518:

Ile Tyr Lys Val Phe Arg His Thr Ala Gly Leu Lys Pro Glu Val Ser  
1 5 10 15

60 Cys Phe Glu Asn Ile Arg Ser Cys Ala Arg Xaa Xaa Xaa Xaa Xaa Xaa

629

20 25 30

Xaa Xaa Xaa Xaa Xaa Xaa Trp Ile Phe Gly Val Leu His Val Val His  
35 40 45

5 Ala Ser Val Val Thr Ala Tyr Leu Phe Thr Val Ser Asn Ala Phe Gln  
50 55 60

10 Gly Met Phe Ile Phe Leu Phe Leu Cys Val Leu Ser Arg Lys Ile Gln  
65 70 75 80

Glu Glu Tyr Tyr Arg Leu Phe Lys Asn Val Pro Cys Cys  
85 90

15

(2) INFORMATION FOR SEQ ID NO: 519:

20 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 55 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 519:

25 Trp Ile Phe Gly Val Leu His Val Val His Ala Ser Val Val Thr Ala  
1 5 10 15

Tyr Leu Phe Thr Val Ser Asn Ala Phe Gln Gly Met Phe Ile Phe Leu  
20 25 30

30 Phe Leu Cys Val Leu Ser Arg Lys Ile Gln Glu Glu Tyr Tyr Arg Leu  
35 40 45

35 Phe Lys Asn Val Pro Cys Cys  
50 55

40 (2) INFORMATION FOR SEQ ID NO: 520:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 50 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear  
45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 520:

Ala Leu Thr Arg Ile Pro Pro Gly Asp Trp Val Ile Asn Val Thr Ala  
1 5 10 15

50 Val Ser Phe Ala Gly Lys Thr Thr Ala Arg Phe Phe Xaa His Ser Ser  
20 25 30

Pro Pro Ser Leu Gly Asp Gln Ala Arg Thr Asp Pro Gly His Gln Arg  
35 40 45

55 Arg Asp  
50

60

630

## (2) INFORMATION FOR SEQ ID NO: 521:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 27 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 521:

Leu Gln Glu Val Asn Ile Thr Leu Pro Glu Asn Ser Val Trp Tyr Glu  
 1 5 10 15

Arg Tyr Lys Phe Asp Ile Pro Val Phe His Leu  
 20 25

## (2) INFORMATION FOR SEQ ID NO: 522:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 110 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 522:

Met Gln Gly Ser Gly Ser Gln Phe Arg Ala Cys Leu Leu Cys Leu Cys  
 1 5 10 15

Phe Ser Cys Pro Cys Ser Pro Gly Gly Pro Arg Trp Asn Ser Arg Gln  
 20 25 30

Gly Gly Arg Arg Phe Pro Lys Thr Cys Arg Ala Ile Ser Gln Asn Leu  
 35 40 45

Val Phe Lys Tyr Lys Thr Phe Cys Pro Val Arg Tyr Met Gln Pro His  
 50 55 60

Arg Ser Ser Leu Cys Leu His Phe Thr Ser Tyr Val Phe Ile Leu Ser  
 65 70 75 80

Thr Trp Gly Ser Leu Arg Thr Tyr Ser Thr Asp Leu Lys Lys Lys Lys  
 85 90 95

Lys Asn Ser Arg Gly Gly Pro Val Pro Ile Arg Pro Lys Ser  
 100 105 110

## (2) INFORMATION FOR SEQ ID NO: 523:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 99 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 523:

TAGCATGTAG CCAGTCGAAT AACNTATAAG GACAAAGTGG AGTCCACGCG TCGGGCCGTC

TAGACTAGTG GATCCCCCGG CTGCAGGATT CGGCACGAG

60

99

## 5 (2) INFORMATION FOR SEQ ID NO: 524:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 51 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

10

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 524:

Met Gln Gly Ser Gly Ser Gln Phe Arg Ala Cys Leu Leu Cys Leu Cys  
 1 5 10 15

15

Phe Ser Cys Pro Cys Ser Pro Gly Gly Pro Arg Trp Asn Ser Arg Gln  
 20 25 30

20

Gly Gly Arg Arg Phe Pro Lys Thr Cys Arg Ala Ile Ser Gln Asn Leu  
 35 40 45

Val Phe Lys  
 50

25

## (2) INFORMATION FOR SEQ ID NO: 525:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 54 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

30

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 525:

Pro Val Arg Tyr Met Gln Pro His Arg Ser Ser Leu Cys Leu His Phe  
 1 5 10 15

Thr Ser Tyr Val Phe Ile Leu Ser Thr Trp Gly Ser Leu Arg Thr Tyr  
 20 25 30

40

Ser Thr Asp Leu Lys Lys Lys Lys Lys Asn Ser Arg Gly Gly Pro Val  
 35 40 45

Pro Ile Arg Pro Lys Ser  
 50

45

## (2) INFORMATION FOR SEQ ID NO: 526:

50

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 38 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

55

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 526:

Gly Glu Glu Gln Arg Asp Cys Ser Leu Gly Trp Arg Gly Val Gly Met  
 1 5 10 15

60

Arg Ala Thr His Cys Gln Ala Ala Arg Met Phe Val Leu Phe Ser Leu

20 25 30

Pro Lys Tyr Ala Gly Leu  
35

5

(2) INFORMATION FOR SEQ ID NO: 527:

10 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 161 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 527:

15 Met Pro Arg Lys Thr Ser Lys Cys Arg Gln Leu Leu Cys Ser Gly Ala  
1 5 10 15

20 Ser Arg Asn Ala Asp Thr Ala Ala Arg Gln Ser Thr Cys Ser Ser His  
20 25 30

Arg Pro Pro Gly Lys Ile Pro Ser Leu Gly Pro Arg Arg Xaa Pro Gly  
35 40 45

25 Cys Xaa Ser Val Pro Ser Ser Arg Gly Glu Gln Ser Thr Gly Ser Pro  
50 55 60

Ala Ala Pro Arg Cys Gly Arg Arg Asp Ala His Arg Gly Leu Pro Gly  
65 70 75 80

30 Gly Ala Ala Met Thr Pro Gly Asp Thr Trp Ala Ser Phe Asn Pro Arg  
85 90 95

Ala Gly His Ser Lys Ser Gln Gly Glu Gly Gln Glu Ser Ser Gly Ala  
100 105 110

35 Ser Arg Gln Asp Arg His Pro Val Ser His Trp Val Glu Arg Gln Arg  
115 120 125

40 Glu Ala Trp Gly Ala Pro Arg Ser Ser Ser Ala Gly Gly Val Lys Val  
130 135 140

Ala Ala Thr Thr Glu Arg Glu Pro Glu Phe Lys Ile Lys Thr Gly Lys  
145 150 155 160

45 Ala

50 (2) INFORMATION FOR SEQ ID NO: 528:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 88 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 528:

55 Cys Ser Gly Ala Ser Arg Asn Ala Asp Thr Ala Ala Arg Gln Ser Thr  
1 5 10 15

60



633

Cys Ser Ser His Arg Pro Pro Gly Lys Ile Pro Ser Leu Gly Pro Arg  
                   20                  25                  30  
 5 Arg Xaa Pro Gly Cys Xaa Ser Val Pro Ser Ser Arg Gly Glu Gln Ser  
                   35                  40                  45  
 Thr Gly Ser Pro Ala Ala Pro Arg Cys Gly Arg Arg Asp Ala His Arg  
           50                  55                  60  
 10 Gly Leu Pro Gly Gly Ala Ala Met Thr Pro Gly Asp Thr Trp Ala Ser  
           65                  70                  75                  80  
 Phe Asn Pro Arg Ala Gly His Ser  
 15                  85

(2) INFORMATION FOR SEQ ID NO: 529:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 59 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 529:

Gln Gly Glu Gly Gln Glu Ser Ser Gly Ala Ser Arg Gln Asp Arg His  
   1                  5                  10                  15  
 30 Pro Val Ser His Trp Val Glu Arg Gln Arg Glu Ala Trp Gly Ala Pro  
                   20                  25                  30  
 Arg Ser Ser Ser Ala Gly Gly Val Lys Val Ala Ala Thr Thr Glu Arg  
           35                  40                  45  
 35 Glu Pro Glu Phe Lys Ile Lys Thr Gly Lys Ala  
           50                  55

(2) INFORMATION FOR SEQ ID NO: 530:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 235 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 530:

Met Ser Pro Arg Tyr Pro Gly Gly Pro Arg Pro Pro Leu Arg Ile Pro  
   1                  5                  10                  15  
 Asn Gln Ala Leu Gly Gly Val Pro Gly Ser Gln Pro Leu Leu Pro Ser  
           20                  25                  30  
 55 Gly Met Asp Pro Thr Arg Gln Gln Gly His Pro Asn Met Gly Gly Pro  
           35                  40                  45  
 Met Gln Arg Met Thr Pro Pro Arg Gly Met Val Pro Leu Gly Pro Gln  
           50                  55                  60

60

634

Asn Tyr Gly Gly Ala Met Arg Pro Pro Leu Asn Ala Leu Gly Gly Pro  
 65 70 75 80  
 Gly Met Pro Gly Met Asn Met Gly Pro Gly Gly Gly Arg Pro Trp Pro  
 5 85 90 95  
 Asn Pro Thr Asn Ala Asn Ser Ile Pro Tyr Ser Ser Ala Ser Pro Gly  
 100 105 110  
 10 Asn Tyr Val Gly Pro Pro Gly Gly Gly Gly Pro Pro Gly Thr Pro Ile  
 115 120 125  
 Met Pro Ser Pro Ala Asp Ser Thr Asn Ser Gly Asp Asn Met Tyr Thr  
 130 135 140  
 15 Leu Met Asn Ala Val Pro Pro Gly Pro Asn Arg Pro Asn Phe Pro Met  
 145 150 155 160  
 Gly Pro Gly Ser Asp Gly Pro Met Gly Gly Leu Gly Gly Met Glu Ser  
 20 165 170 175  
 His His Met Asn Gly Ser Leu Gly Ser Gly Asp Met Asp Ser Ile Ser  
 180 185 190  
 25 Lys Asn Ser Pro Asn Asn Met Ser Leu Ser Asn Gln Pro Gly Thr Pro  
 195 200 205  
 Arg Asp Asp Gly Glu Met Gly Gly Asn Phe Leu Asn Pro Phe Gln Ser  
 210 215 220  
 30 Glu Ser Tyr Ser Pro Ser Met Thr Met Ser Val  
 225 230 235  
 35  
 (2) INFORMATION FOR SEQ ID NO: 531:  
 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 114 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 531:  
 40  
 Met Ser Pro Arg Tyr Pro Gly Gly Pro Arg Pro Pro Leu Arg Ile Pro  
 45 1 5 10 15  
 Asn Gln Ala Leu Gly Gly Val Pro Gly Ser Gln Pro Leu Leu Pro Ser  
 20 25 30  
 50 Gly Met Asp Pro Thr Arg Gln Gln Gly His Pro Asn Met Gly Gly Pro  
 35 40 45  
 Met Gln Arg Met Thr Pro Pro Arg Gly Met Val Pro Leu Gly Pro Gln  
 50 55 60  
 55 Asn Tyr Gly Gly Ala Met Arg Pro Pro Leu Asn Ala Leu Gly Gly Pro  
 65 70 75 80  
 Gly Met Pro Gly Met Asn Met Gly Pro Gly Gly Gly Arg Pro Trp Pro  
 60 85 90 95

635

Asn Pro Thr Asn Ala Asn Ser Ile Pro Tyr Ser Ser Ala Ser Pro Gly  
 100 105 110

5 Asn Tyr

10 (2) INFORMATION FOR SEQ ID NO: 532:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 81 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 532:

Leu Asn Ala Leu Gly Gly Pro Gly Met Pro Gly Met Asn Met Gly Pro  
 1 5 10 15

20

Gly Gly Gly Arg Pro Trp Pro Asn Pro Thr Asn Ala Asn Ser Ile Pro  
 20 25 30

25

Tyr Ser Ser Ala Ser Pro Gly Asn Tyr Val Gly Pro Pro Gly Gly Gly  
 35 40 45

Gly Pro Pro Gly Thr Pro Ile Met Pro Ser Pro Ala Asp Ser Thr Asn  
 50 55 60

30

Ser Gly Asp Asn Met Tyr Thr Leu Met Asn Ala Val Pro Pro Gly Pro  
 65 70 75 80

Asn

35

(2) INFORMATION FOR SEQ ID NO: 533:

40

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 70 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 533:

45

Gly Pro Met Gly Gly Leu Gly Gly Met Glu Ser His His Met Asn Gly  
 1 5 10 15

50

Ser Leu Gly Ser Gly Asp Met Asp Ser Ile Ser Lys Asn Ser Pro Asn  
 20 25 30

Asn Met Ser Leu Ser Asn Gln Pro Gly Thr Pro Arg Asp Asp Gly Glu  
 35 40 45

55

Met Gly Gly Asn Phe Leu Asn Pro Phe Gln Ser Glu Ser Tyr Ser Pro  
 50 55 60

Ser Met Thr Met Ser Val  
 65 70

60

## (2) INFORMATION FOR SEQ ID NO: 534:

5 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 14 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 534:  
 10 Thr Cys Glu His Ser Ser Glu Ala Lys Ala Phe His Asp Tyr  
 1 5 10

15

## (2) INFORMATION FOR SEQ ID NO: 535:

20 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 59 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 535:  
 25 Gln Ala Phe Val Leu Leu Ser Asp Leu Leu Leu Ile Phe Ser Pro Gln  
 1 5 10 15  
 Met Ile Val Gly Gly Arg Asp Phe Leu Arg Pro Leu Val Phe Phe Pro  
 20 25 30  
 30 Glu Ala Thr Leu Gln Ser Glu Leu Ala Ser Phe Leu Met Asp His Val  
 35 40 45  
 Phe Ile Gln Pro Gly Asp Leu Gly Ser Gly Ala  
 50 55

35

## (2) INFORMATION FOR SEQ ID NO: 536:

40 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 43 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 536:  
 45 Ala Cys Ser Tyr Leu Leu Cys Asn Pro Glu Phe Thr Phe Phe Ser Arg  
 1 5 10 15  
 Ala Asp Phe Ala Arg Ser Gln Leu Val Asp Leu Leu Thr Asp Arg Phe  
 50 20 25 30  
 Gln Gln Glu Leu Glu Glu Leu Leu Gln Val Gly  
 35 40

55

## (2) INFORMATION FOR SEQ ID NO: 537:

60 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 35 amino acids

637

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 537:

5 Gln Lys Gln Leu Ser Ser Leu Arg Asp Arg Met Val Ala Phe Cys Glu  
 1 5 10 15  
 Leu Cys Gln Ser Cys Leu Ser Asp Val Asp Thr Glu Ile Gln Glu Gln  
 20 25 30  
 10 Val Ser Thr  
 35

15

(2) INFORMATION FOR SEQ ID NO: 538:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 27 amino acids

20

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 538:

25 Gln Val Ile Leu Pro Ala Leu Thr Leu Val Tyr Phe Ser Ile Leu Trp  
 1 5 10 15  
 Thr Leu Thr His Ile Ser Lys Ser Asp Ala Ser  
 20 25

30

(2) INFORMATION FOR SEQ ID NO: 539:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 31 amino acids

35

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 539:

40 Ser Thr His Asp Leu Thr Arg Trp Glu Leu Tyr Glu Pro Cys Cys Gln  
 1 5 10 15  
 Leu Leu Gln Lys Ala Val Asp Thr Gly Xaa Val Pro His Gln Val  
 20 25 30  
 45

(2) INFORMATION FOR SEQ ID NO: 540:

50

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 106 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 540:

55

Leu Ala Val Ser Thr Ser Phe Ile Cys Cys Ala Asp Ile Ser Thr Ala  
 1 5 10 15  
 Leu Pro Leu Gly Ser Ser Arg Pro Ala Pro Ala Pro Arg His Arg Glu  
 20 25 30  
 60

638

His Glu His Gly His Gln Ala Arg Pro Pro Arg Leu Leu Xaa Thr Ser  
                   35                                  40                                  45  
 5 Leu Met Pro Leu Ser Thr Pro Ala Ala Ala Gln Leu Leu Trp Thr Gln  
                   50                                  55                                  60  
 Leu Thr Pro Met Gly Gly Arg Pro Gly Gly Arg His Ser Pro Pro Thr  
                   65                                  70                                  75                                  80  
 10 Leu His Thr Gly Pro Arg Ala Leu Pro Pro Gly Pro Pro His Pro Ser  
                                   85                                  90                                  95  
 15 Leu His Val Ala Ala Leu Ser Leu Leu Arg  
                                   100                                  105

(2) INFORMATION FOR SEQ ID NO: 541:

20

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 207 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 541:

Glu Gln Val Leu Ala Leu Leu Trp Pro Arg Phe Glu Leu Ile Leu Glu  
                   1                                  5                                  10                                  15  
 30 Met Asn Val Gln Ser Val Arg Ser Thr Asp Pro Gln Arg Leu Gly Gly  
                                   20                                  25                                  30  
 Leu Asp Thr Arg Pro His Tyr Ile Thr Arg Arg Tyr Ala Glu Phe Ser  
                   35                                  40                                  45  
 35 Ser Ala Leu Val Ser Ile Asn Gln Thr Ile Pro Asn Glu Arg Thr Met  
                   50                                  55                                  60  
 40 Gln Leu Leu Gly Gln Leu Gln Val Glu Val Glu Asn Phe Val Leu Arg  
                   65                                  70                                  75                                  80  
 Val Ala Ala Glu Phe Ser Ser Arg Lys Glu Gln Leu Val Phe Leu Ile  
                                   85                                  90                                  95  
 45 Asn Asn Tyr Asp Met Met Leu Gly Val Leu Met Glu Arg Ala Ala Asp  
                                   100                                  105                                  110  
 Asp Ser Lys Glu Val Glu Ser Phe Gln Gln Leu Leu Asn Ala Arg Thr  
                   115                                  120                                  125  
 50 Gln Glu Phe Ile Glu Glu Leu Leu Ser Pro Pro Phe Gly Gly Leu Val  
                   130                                  135                                  140  
 55 Ala Phe Val Lys Glu Ala Glu Ala Leu Ile Glu Arg Gly Gln Ala Glu  
                   145                                  150                                  155                                  160  
 Arg Leu Arg Gly Glu Glu Ala Arg Val Thr Gln Leu Ile Arg Gly Phe  
                                   165                                  170                                  175  
 60 Gly Ser Ser Trp Lys Ser Ser Val Glu Ser Leu Ser Gln Asp Val Met

180 185 190  
 Arg Ser Phe Thr Asn Phe Arg Asn Gly Thr Ser Ile Ile Gln Gly  
 195 200 205

5

(2) INFORMATION FOR SEQ ID NO: 542:

10

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 110 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 542:

15

Ala Leu Leu Lys Tyr Arg Phe Phe Tyr Gln Phe Leu Leu Gly Asn Glu  
 1 5 10 15

20

Arg Ala Thr Ala Lys Glu Ile Arg Asp Glu Tyr Val Glu Thr Leu Ser  
 20 25 30

Lys Ile Tyr Leu Ser Tyr Tyr Arg Ser Tyr Leu Gly Arg Leu Met Lys  
 35 40 45

25

Val Gln Tyr Glu Glu Val Ala Glu Lys Asp Asp Leu Met Gly Val Glu  
 50 55 60

Asp Thr Ala Lys Lys Gly Phe Xaa Ser Lys Pro Ser Leu Arg Ser Arg  
 65 70 75 80

30

Asn Thr Ile Phe Thr Leu Gly Thr Arg Gly Ser Val Ile Ser Pro Thr  
 85 90 95

35

Glu Leu Glu Ala Pro Ile Leu Val Pro His Thr Ala Gln Arg  
 100 105 110

(2) INFORMATION FOR SEQ ID NO: 543:

40

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 97 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

45

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 543:

Glu Gln Arg Tyr Pro Phe Glu Ala Leu Phe Arg Ser Gln His Tyr Xaa  
 1 5 10 15

50

Leu Leu Asp Asn Ser Cys Arg Glu Tyr Leu Phe Ile Cys Glu Phe Phe  
 20 25 30

Val Val Ser Gly Pro Xaa Ala His Asp Leu Phe His Ala Val Met Gly  
 35 40 45

55

Arg Thr Leu Ser Met Thr Leu Lys His Leu Asp Ser Tyr Leu Ala Asp  
 50 55 60

60

Cys Tyr Asp Ala Ile Ala Val Phe Leu Cys Ile His Ile Val Leu Arg  
 65 70 75 80

640

Phe Arg Asn Ile Ala Ala Lys Arg Asp Val Pro Ala Leu Asp Arg Tyr  
                     85                    90                    95

5 Trp

10 (2) INFORMATION FOR SEQ ID NO: 544:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 26 amino acids

(B) TYPE: amino acid

15 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 544:

Gly Gly Leu Asp Thr Arg Pro His Tyr Ile Thr Arg Arg Tyr Ala Glu  
   1                    5                    10                    15

20 Phe Ser Ser Ala Leu Val Ser Ile Asn Gln  
                     20                    25

25

(2) INFORMATION FOR SEQ ID NO: 545:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

30 (B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 545:

35 Ser Arg Lys Glu Gln Leu Val Phe Leu Ile Asn Asn Tyr Asp Met Met  
   1                    5                    10                    15

Leu Gly Val Leu  
                     20

40

(2) INFORMATION FOR SEQ ID NO: 546:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 411 amino acids

45 (B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 546:

50 Ala Leu Leu Lys Tyr Arg Phe Phe Tyr Gln Phe Leu Leu Gly Asn Glu  
   1                    5                    10                    15

Arg Ala Thr Ala Lys Glu Ile Arg Asp Glu Tyr Val Glu Thr Leu Ser  
                     20                    25                    30

55

Lys Ile Tyr Leu Ser Tyr Tyr Arg Ser Tyr Leu Gly Arg Leu Met Lys  
                     35                    40                    45

60

Val Gln Tyr Glu Glu Val Ala Glu Lys Asp Asp Leu Met Gly Val Glu  
                     50                    55                    60



641

Asp Thr Ala Lys Lys Gly Phe Xaa Ser Lys Pro Ser Leu Arg Ser Arg  
 65 70 75 80

5 Asn Thr Ile Phe Thr Leu Gly Thr Arg Gly Ser Val Ile Ser Pro Thr  
 85 90 95

Glu Leu Glu Ala Pro Ile Leu Val Pro His Thr Ala Gln Arg Xaa Glu  
 100 105 110

10 Gln Arg Tyr Pro Phe Glu Ala Leu Phe Arg Ser Gln His Tyr Xaa Leu  
 115 120 125

Leu Asp Asn Ser Cys Arg Glu Tyr Leu Phe Ile Cys Glu Phe Phe Val  
 15 130 135 140

Val Ser Gly Pro Xaa Ala His Asp Leu Phe His Ala Val Met Gly Arg  
 145 150 155 160

20 Thr Leu Ser Met Thr Leu Lys His Leu Asp Ser Tyr Leu Ala Asp Cys  
 165 170 175

Tyr Asp Ala Ile Ala Val Phe Leu Cys Ile His Ile Val Leu Arg Phe  
 180 185 190

25 Arg Asn Ile Ala Ala Lys Arg Asp Val Pro Ala Leu Asp Arg Tyr Trp  
 195 200 205

Glu Gln Val Leu Ala Leu Leu Trp Pro Arg Phe Glu Leu Ile Leu Glu  
 30 210 215 220

Met Asn Val Gln Ser Val Arg Ser Thr Asp Pro Gln Arg Leu Gly Gly  
 225 230 235 240

35 Leu Asp Thr Arg Pro His Tyr Ile Thr Arg Arg Tyr Ala Glu Phe Ser  
 245 250 255

Ser Ala Leu Val Ser Ile Asn Gln Thr Ile Pro Asn Gln Arg Thr Met  
 260 265 270

40 Gln Leu Leu Gly Gln Leu Gln Val Glu Val Glu Asn Phe Val Leu Arg  
 275 280 285

Val Ala Ala Glu Phe Ser Ser Arg Lys Glu Gln Leu Val Phe Leu Ile  
 45 290 295 300

Asn Asn Tyr Asp Met Met Leu Gly Val Leu Met Glu Arg Ala Ala Asp  
 305 310 315 320

50 Asp Ser Lys Glu Val Glu Ser Phe Gln Gln Leu Leu Asn Ala Arg Thr  
 325 330 335

Gln Glu Phe Ile Glu Glu Leu Leu Ser Pro Pro Phe Gly Gly Leu Val  
 340 345 350

55 Ala Phe Val Lys Glu Ala Glu Ala Leu Ile Glu Arg Gly Gln Ala Glu  
 355 360 365

Arg Leu Arg Gly Glu Glu Ala Arg Val Thr Gln Leu Ile Arg Gly Phe  
 60 370 375 380

642

Gly Ser Ser Trp Lys Ser Ser Val Glu Ser Leu Ser Gln Asp Val Met  
385 390 395 400

5 Arg Ser Phe Thr Asn Phe Arg Asn Gly Thr Ser  
405 410

10 (2) INFORMATION FOR SEQ ID NO: 547:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 303 amino acids

(B) TYPE: amino acid

15 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 547:

20 Tyr Glu Gly Lys Glu Phe Asp Tyr Val Phe Ser Ile Asp Val Asn Glu  
1 5 10 15

Gly Gly Pro Ser Tyr Lys Leu Pro Tyr Asn Thr Ser Asp Asp Pro Trp  
20 25 30

25 Leu Thr Ala Tyr Asn Phe Leu Gln Lys Asn Asp Leu Asn Pro Met Phe  
35 40 45

Leu Asp Gln Val Ala Lys Phe Ile Ile Asp Asn Thr Lys Gly Gln Met  
50 55 60

30 Leu Gly Leu Gly Asn Pro Ser Phe Ser Asp Pro Phe Thr Gly Gly Gly  
65 70 75 80

Arg Tyr Val Pro Gly Ser Ser Gly Ser Ser Asn Thr Leu Pro Thr Ala  
85 90 95

35 Asp Pro Phe Thr Gly Ala Gly Arg Tyr Val Pro Gly Ser Ala Ser Met  
100 105 110

Gly Thr Thr Met Ala Gly Val Asp Pro Phe Thr Gly Asn Ser Ala Tyr  
40 115 120 125

Arg Ser Ala Ala Ser Lys Thr Met Asn Ile Tyr Phe Pro Lys Lys Glu  
130 135 140

45 Ala Val Thr Phe Asp Gln Ala Asn Pro Thr Gln Ile Leu Gly Lys Leu  
145 150 155 160

Lys Glu Leu Asn Gly Thr Ala Pro Glu Glu Lys Lys Leu Thr Glu Asp  
165 170 175

50 Asp Leu Ile Leu Leu Glu Lys Ile Leu Ser Leu Ile Cys Asn Ser Ser  
180 185 190

Ser Glu Lys Pro Thr Val Gln Gln Leu Gln Ile Leu Trp Lys Ala Ile  
55 195 200 205

Asn Cys Pro Glu Asp Ile Val Phe Pro Ala Leu Asp Ile Leu Arg Leu  
210 215 220

60 Ser Ile Lys His Pro Ser Val Asn Glu Asn Phe Cys Asn Glu Lys Glu

643

225                      230                      235                      240

Gly Ala Gln Phe Ser Ser His Leu Ile Asn Leu Leu Asn Pro Lys Gly  
                                  245                      250                      255

5 Lys Pro Ala Asn Gln Leu Leu Ala Leu Arg Thr Phe Cys Asn Cys Phe  
                                  260                      265                      270

10 Val Gly Gln Ala Gly Gln Lys Leu Met Met Ser Gln Arg Glu Ser Leu  
                                  275                      280                      285

Met Ser His Ala Ile Glu Leu Lys Ser Gly Ser Asn Lys Asn Ile  
                                  290                      295                      300

15

(2) INFORMATION FOR SEQ ID NO: 548:

20 (i) SEQUENCE CHARACTERISTICS:  
                                  (A) LENGTH: 18 amino acids  
                                  (B) TYPE: amino acid  
                                  (D) TOPOLOGY: linear  
                                  (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 548:

25 His Ile Ala Leu Ala Thr Leu Ala Leu Asn Tyr Ser Val Cys Phe His  
      1                      5                      10                      15

Lys Asp

30

(2) INFORMATION FOR SEQ ID NO: 549:

35 (i) SEQUENCE CHARACTERISTICS:  
                                  (A) LENGTH: 49 amino acids  
                                  (B) TYPE: amino acid  
                                  (D) TOPOLOGY: linear  
                                  (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 549:

40

His Asn Ile Glu Gly Lys Ala Gln Cys Leu Ser Leu Ile Ser Thr Ile  
      1                      5                      10                      15

45 Leu Glu Val Val Gln Asp Leu Glu Ala Thr Phe Arg Leu Leu Val Ala  
                                  20                      25                      30

Leu Gly Thr Leu Ile Ser Asp Asp Ser Asn Ala Val Gln Leu Ala Lys  
                                  35                      40                      45

50 Ser

55 (2) INFORMATION FOR SEQ ID NO: 550:

60 (i) SEQUENCE CHARACTERISTICS:  
                                  (A) LENGTH: 30 amino acids  
                                  (B) TYPE: amino acid  
                                  (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 550:

5 Leu Gly Val Asp Ser Gln Ile Lys Lys Tyr Ser Ser Val Ser Glu Pro  
 1 5 10 15  
 Ala Lys Val Ser Glu Cys Cys Arg Phe Ile Leu Asn Leu Leu  
 20 25 30

10

## (2) INFORMATION FOR SEQ ID NO: 551:

## (i) SEQUENCE CHARACTERISTICS:

15

(A) LENGTH: 400 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 551:

20 Tyr Glu Gly Lys Glu Phe Asp Tyr Val Phe Ser Ile Asp Val Asn Glu  
 1 5 10 15  
 Gly Gly Pro Ser Tyr Lys Leu Pro Tyr Asn Thr Ser Asp Asp Pro Trp  
 20 25 30  
 25 Leu Thr Ala Tyr Asn Phe Leu Gln Lys Asn Asp Leu Asn Pro Met Phe  
 35 40 45  
 Leu Asp Gln Val Ala Lys Phe Ile Ile Asp Asn Thr Lys Gly Gln Met  
 50 55 60  
 30 Leu Gly Leu Gly Asn Pro Ser Phe Ser Asp Pro Phe Thr Gly Gly Gly  
 65 70 75 80  
 Arg Tyr Val Pro Gly Ser Ser Gly Ser Ser Asn Thr Leu Pro Thr Ala  
 35 85 90 95  
 Asp Pro Phe Thr Gly Ala Gly Arg Tyr Val Pro Gly Ser Ala Ser Met  
 100 105 110  
 40 Gly Thr Thr Met Ala Gly Val Asp Pro Phe Thr Gly Asn Ser Ala Tyr  
 115 120 125  
 Arg Ser Ala Ala Ser Lys Thr Met Asn Ile Tyr Phe Pro Lys Lys Glu  
 130 135 140  
 45 Ala Val Thr Phe Asp Gln Ala Asn Pro Thr Gln Ile Leu Gly Lys Leu  
 145 150 155 160  
 Lys Glu Leu Asn Gly Thr Ala Pro Glu Glu Lys Lys Leu Thr Glu Asp  
 50 165 170 175  
 Asp Leu Ile Leu Leu Glu Lys Ile Leu Ser Leu Ile Cys Asn Ser Ser  
 180 185 190  
 55 Ser Glu Lys Pro Thr Val Gln Gln Leu Gln Ile Leu Trp Lys Ala Ile  
 195 200 205  
 Asn Cys Pro Glu Asp Ile Val Phe Pro Ala Leu Asp Ile Leu Arg Leu  
 210 215 220  
 60

645

Ser Ile Lys His Pro Ser Val Asn Glu Asn Phe Cys Asn Glu Lys Glu  
 225 230 235 240  
 Gly Ala Gln Phe Ser Ser His Leu Ile Asn Leu Leu Asn Pro Lys Gly  
 5 245 250 255  
 Lys Pro Ala Asn Gln Leu Leu Ala Leu Arg Thr Phe Cys Asn Cys Phe  
 260 265 270  
 10 Val Gly Gln Ala Gly Gln Lys Leu Met Met Ser Gln Arg Glu Ser Leu  
 275 280 285  
 Met Ser His Ala Ile Glu Leu Lys Ser Gly Ser Asn Lys Asn Ile His  
 290 295 300  
 15 Ile Ala Leu Ala Thr Leu Ala Leu Asn Tyr Ser Val Cys Phe His Lys  
 305 310 315 320  
 Asp His Asn Ile Glu Gly Lys Ala Gln Cys Leu Ser Leu Ile Ser Thr  
 20 325 330 335  
 Ile Leu Glu Val Val Gln Asp Leu Glu Ala Thr Phe Arg Leu Leu Val  
 340 345 350  
 25 Ala Leu Gly Thr Leu Ile Ser Asp Asp Ser Asn Ala Val Gln Leu Ala  
 355 360 365  
 Lys Ser Leu Gly Val Asp Ser Gln Ile Lys Lys Tyr Ser Ser Val Ser  
 370 375 380  
 30 Glu Pro Ala Lys Val Ser Glu Cys Cys Arg Phe Ile Leu Asn Leu Leu  
 385 390 395 400

35

(2) INFORMATION FOR SEQ ID NO: 552:

40

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 139 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

45

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 552:

Tyr Pro Asn Gln Asp Gly Asp Ile Leu Arg Asp Gln Val Leu His Glu  
 1 5 10 15  
 50 His Ile Gln Arg Leu Ser Lys Val Val Thr Ala Asn His Arg Ala Leu  
 20 25 30  
 Gln Ile Pro Glu Val Tyr Leu Arg Glu Ala Pro Trp Pro Ser Ala Gln  
 35 40 45  
 55 Ser Glu Ile Arg Thr Ile Ser Ala Tyr Lys Thr Pro Arg Asp Lys Val  
 50 55 60  
 60 Gln Cys Ile Leu Arg Met Cys Ser Thr Ile Met Asn Leu Leu Ser Leu  
 65 70 75 80

646

Ala Asn Glu Asp Ser Val Pro Gly Ala Asp Asp Phe Val Pro Val Leu  
                             85                            90                            95

5 Val Phe Val Leu Ile Lys Ala Asn Pro Pro Cys Leu Leu Ser Thr Val  
                             100                            105                            110

Gln Tyr Ile Ser Ser Phe Tyr Ala Ser Cys Leu Ser Gly Glu Glu Ser  
                             115                            120                            125

10 Tyr Trp Trp Met Gln Phe Thr Ala Ala Val Glu  
                             130                            135

15

(2) INFORMATION FOR SEQ ID NO: 553:

(i) SEQUENCE CHARACTERISTICS:  
           (A) LENGTH: 144 amino acids  
           (B) TYPE: amino acid  
           (D) TOPOLOGY: linear

20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 553:

25 Tyr Pro Asn Gln Asp Gly Asp Ile Leu Arg Asp Gln Val Leu His Glu  
       1                            5                            10                            15

His Ile Gln Arg Leu Ser Lys Val Val Thr Ala Asn His Arg Ala Leu  
                             20                            25                            30

30 Gln Ile Pro Glu Val Tyr Leu Arg Glu Ala Pro Trp Pro Ser Ala Gln  
                             35                            40                            45

Ser Glu Ile Arg Thr Ile Ser Ala Tyr Lys Thr Pro Arg Asp Lys Val  
                             50                            55                            60

35 Gln Cys Ile Leu Arg Met Cys Ser Thr Ile Met Asn Leu Leu Ser Leu  
                             65                            70                            75                            80

Ala Asn Glu Asp Ser Val Pro Gly Ala Asp Asp Phe Val Pro Val Leu  
                             85                            90                            95

40 Val Phe Val Leu Ile Lys Ala Asn Pro Pro Cys Leu Leu Ser Thr Val  
                             100                            105                            110

45 Gln Tyr Ile Ser Ser Phe Tyr Ala Ser Cys Leu Ser Gly Glu Glu Ser  
                             115                            120                            125

Tyr Trp Trp Met Gln Phe Thr Ala Ala Val Glu Phe Ile Lys Thr Ile  
                             130                            135                            140

50

55

(2) INFORMATION FOR SEQ ID NO: 554:

(i) SEQUENCE CHARACTERISTICS:  
           (A) LENGTH: 14 amino acids  
           (B) TYPE: amino acid

60

647

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 554:

5 Tyr Pro Asn Gln Asp Gly Asp Ile Leu Arg Asp Gln Val Leu  
 1 5 10

(2) INFORMATION FOR SEQ ID NO: 555:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 11 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 555:

10 Glu Ala Pro Trp Pro Ser Ala Gln Ser Glu Ile  
 1 5 10

(2) INFORMATION FOR SEQ ID NO: 556:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 21 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 556:

25 Ser Gly Glu Glu Ser Tyr Trp Trp Met Gln Phe Thr Ala Ala Val Glu  
 1 5 10 15

Phe Ile Lys Thr Ile  
 20

(2) INFORMATION FOR SEQ ID NO: 557:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 18 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 557:

45 Ala Asp Asp Phe Val Pro Val Leu Val Phe Val Leu Ile Lys Ala Asn  
 1 5 10 15

50 Pro Pro

(2) INFORMATION FOR SEQ ID NO: 558:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 12 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 558:

60

648

Tyr Lys Thr Pro Arg Asp Lys Val Gln Cys Ile Leu  
 1 5 10

5

(2) INFORMATION FOR SEQ ID NO: 559:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 15 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 559:

Gly Ala Asp Asp Phe Val Pro Val Leu Val Phe Val Leu Ile Lys  
 1 5 10 15

(2) INFORMATION FOR SEQ ID NO: 560:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 12 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 560:

Pro Val Leu Val Phe Val Leu Ile Lys Ala Asn Pro  
 1 5 10

(2) INFORMATION FOR SEQ ID NO: 561:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 17 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 561:

Ser Ala Arg Ala Ser Thr Gln Pro Pro Ala Gly Gln His Pro Gly Pro  
 1 5 10 15

Cys

(2) INFORMATION FOR SEQ ID NO: 562:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 33 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 562:

Met Pro Gly Arg Trp Arg Trp Gln Arg Asp Met His Pro Ala Arg Lys  
 1 5 10 15

Leu Leu Ser Leu Leu Phe Leu Ile Leu Met Gly Thr Glu Leu Thr Gln



649

20

25

30

Asp

5

(2) INFORMATION FOR SEQ ID NO: 563:

10

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 19 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 563:

15

Ser Ala Ala Pro Asp Ser Leu Leu Arg Ser Ser Lys Gly Ser Thr Arg  
1 5 10 15

Gly Ser Leu

20

(2) INFORMATION FOR SEQ ID NO: 564:

25

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

30

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 564:

Ala Ala Ile Val Ile Trp Arg Gly Lys Ser Glu Ser Arg Ile Ala Lys  
1 5 10 15

35

Thr Pro Gly Ile  
20

40

(2) INFORMATION FOR SEQ ID NO: 565:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 17 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

45

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 565:

Pro Leu Gly Ile Thr Leu Pro Leu Gly Ala Pro Glu Thr Gly Gly Gly  
1 5 10 15

50

Asp

55

(2) INFORMATION FOR SEQ ID NO: 566:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

60

(B) TYPE: amino acid

650

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 566:

5 Cys Ala Ala Glu Thr Trp Lys Gly Ser Gln Arg Ala Gly Gln Leu Cys  
 1 5 10 15  
 Ala Leu Leu Ala  
 20

10

(2) INFORMATION FOR SEQ ID NO: 567:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 567:

20 Phe Arg Gly Gly Gly Thr Leu Val Leu Pro Pro Thr His Thr Pro Glu  
 1 5 10 15  
 Trp Leu Ile Leu  
 20

25

(2) INFORMATION FOR SEQ ID NO: 568:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 22 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 568:

35 Met Arg Ser Ala Arg Pro Ser Leu Gly Cys Leu Pro Ser Trp Ala Phe  
 1 5 10 15  
 Ser Gln Ala Leu Asn Ile  
 40 20

(2) INFORMATION FOR SEQ ID NO: 569:

45

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 22 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 569:

50

Leu Leu Gly Leu Lys Gly Leu Ala Pro Ala Glu Ile Ser Ala Val Cys  
 1 5 10 15

55 Glu Lys Gly Asn Phe Asn  
 20

60 (2) INFORMATION FOR SEQ ID NO: 570:

651

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 26 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 570:

Val Ala His Gly Leu Ala Trp Ser Tyr Tyr Ile Gly Tyr Leu Arg Leu  
 1 5 10 15  
 Ile Leu Pro Glu Leu Gln Ala Arg Ile Arg  
 20 25

(2) INFORMATION FOR SEQ ID NO: 571:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 18 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 571:

Thr Tyr Asn Gln His Tyr Asn Asn Leu Leu Arg Gly Ala Val Ser Gln  
 1 5 10 15  
 Arg Cys

(2) INFORMATION FOR SEQ ID NO: 572:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 43 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 572:

Ile Leu Leu Pro Leu Asp Cys Gly Val Pro Asp Asn Leu Ser Met Ala  
 1 5 10 15  
 Asp Pro Asn Ile Arg Phe Leu Asp Lys Leu Pro Gln Gln Thr Gly Asp  
 20 25 30  
 Arg Ala Gly Ile Lys Asp Arg Val Tyr Ser Asn  
 35 40

(2) INFORMATION FOR SEQ ID NO: 573:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 45 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 573:

Ser Ile Tyr Glu Leu Leu Glu Asn Gly Gln Arg Ala Gly Thr Cys Val  
 1 5 10 15

652

Leu Glu Tyr Ala Thr Pro Leu Gln Thr Leu Phe Ala Met Ser Gln Tyr  
 20 25 30

5 Ser Gln Ala Gly Phe Ser Gly Glu Asp Arg Leu Glu Gln  
 35 40 45

10 (2) INFORMATION FOR SEQ ID NO: 574:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 92 amino acids

(B) TYPE: amino acid

15 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 574:

Ala Lys Leu Phe Cys Arg Thr Leu Glu Asp Ile Leu Ala Asp Ala Pro  
 1 5 10 15

20 Glu Ser Gln Asn Asn Cys Arg Leu Ile Ala Tyr Gln Glu Pro Ala Asp  
 20 25 30

25 Asp Ser Ser Phe Ser Leu Ser Gln Glu Val Leu Arg His Leu Arg Gln  
 35 40 45

Glu Glu Lys Glu Glu Val Thr Val Gly Ser Leu Lys Thr Ser Ala Val  
 50 55 60

30 Pro Ser Thr Ser Thr Met Ser Gln Glu Pro Glu Leu Leu Ile Ser Gly  
 65 70 75 80

Met Glu Lys Pro Leu Pro Leu Arg Thr Asp Phe Ser  
 85 90

35

(2) INFORMATION FOR SEQ ID NO: 575:

40 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 43 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 575:

45 Leu Leu Gly Leu Lys Gly Leu Ala Pro Ala Glu Ile Ser Ala Val Cys  
 1 5 10 15

50 Glu Lys Gly Asn Phe Asn Val Ala His Gly Leu Ala Trp Ser Tyr Tyr  
 20 25 30

Ile Gly Tyr Leu Arg Leu Ile Leu Pro Glu Leu  
 35 40

55

(2) INFORMATION FOR SEQ ID NO: 576:

(i) SEQUENCE CHARACTERISTICS:

60 (A) LENGTH: 22 amino acids

653

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 576:

5 Thr Met Lys Leu Leu Lys Leu Arg Arg Asn Ile Val Lys Leu Ser Leu  
 1 5 10 15

Tyr Arg His Phe Thr Asn  
 20

10

(2) INFORMATION FOR SEQ ID NO: 577:

15 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 22 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 577:

20

Thr Leu Ile Leu Ala Val Ala Ala Ser Ile Val Phe Ile Ile Trp Thr  
 1 5 10 15

25

Thr Met Lys Phe Arg Ile  
 20

(2) INFORMATION FOR SEQ ID NO: 578:

30

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 28 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

35

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 578:

Val Thr Cys Gln Ser Asp Trp Arg Glu Leu Trp Val Asp Asp Ala Ile  
 1 5 10 15

40

Trp Arg Leu Leu Phe Ser Met Ile Leu Phe Val Ile  
 20 25

45

(2) INFORMATION FOR SEQ ID NO: 579:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 27 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

50

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 579:

Met Val Leu Trp Arg Pro Ser Ala Asn Asn Gln Arg Phe Ala Phe Ser  
 1 5 10 15

55

Pro Leu Ser Glu Glu Glu Glu Asp Glu Gln  
 20 25

60

654

## (2) INFORMATION FOR SEQ ID NO: 580:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 27 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 580:

Met Val Leu Trp Arg Pro Ser Ala Asn Asn Gln Arg Phe Ala Phe Ser  
 1 5 10 15

Pro Leu Ser Glu Glu Glu Glu Asp Glu Gln  
 20 25

15

## (2) INFORMATION FOR SEQ ID NO: 581:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 35 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 581:

Lys Glu Pro Met Leu Lys Glu Ser Phe Glu Gly Met Lys Met Arg Ser  
 1 5 10 15

Thr Lys Gln Glu Pro Asn Gly Asn Ser Lys Val Asn Lys Ala Gln Glu  
 20 25 30

30

Asp Asp Leu  
 35

35

## (2) INFORMATION FOR SEQ ID NO: 582:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 37 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 582:

Lys Trp Val Glu Glu Asn Val Pro Ser Ser Val Thr Asp Val Ala Leu  
 1 5 10 15

Pro Ala Leu Leu Asp Ser Asp Glu Glu Arg Met Ile Thr His Phe Glu  
 20 25 30

50

Arg Ser Lys Met Glu  
 35

55

## (2) INFORMATION FOR SEQ ID NO: 583:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

60

655

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 833:

Asp Pro Arg Val Arg Leu Asn Ser Leu Thr Cys Lys His Ile Phe Ile  
 1 5 10 15  
 Ser Leu Thr Gln  
 20

10

(2) INFORMATION FOR SEQ ID NO: 834:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 13 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 834:

Tyr Glu Pro Met Asp Phe Xaa Met Ala Leu Ile Tyr Asp  
 1 5 10

20

(2) INFORMATION FOR SEQ ID NO: 835:

25

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 16 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

30

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 835:

Ile Arg His Glu Leu Thr Val Leu Arg Arg Thr Arg Pro Ala Cys Ala  
 1 5 10 15

35

(2) INFORMATION FOR SEQ ID NO: 836:

40

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 10 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

45

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 836:

Met Asp Phe Xaa Met Ala Leu Ile Tyr Arg  
 1 5 10

50

(2) INFORMATION FOR SEQ ID NO: 837:

55

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 14 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

60

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 837:

Met Gln Glu Met Met Arg Asn Gln Asp Arg Ala Leu Ser Asn Leu Glu  
 1 5 10 15

5 Ser Ile Pro Gly Gly Tyr Asn Ala  
 20

10 (2) INFORMATION FOR SEQ ID NO: 588:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 25 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 588:

Leu Arg Arg Met Tyr Thr Asp Ile Gln Glu Pro Met Leu Ser Ala Ala  
 1 5 10 15

20 Gln Glu Gln Phe Gly Gly Asn Pro Phe  
 20 25

25 (2) INFORMATION FOR SEQ ID NO: 589:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 32 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 589:

Ala Ser Leu Val Ser Asn Thr Ser Ser Gly Glu Gly Ser Gln Pro Ser  
 1 5 10 15

35 Arg Thr Glu Asn Arg Asp Pro Leu Pro Asn Pro Trp Ala Pro Gln Thr  
 20 25 30

40

45 (2) INFORMATION FOR SEQ ID NO: 590:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 71 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 590:

Ser Gln Ser Ser Ser Ala Ser Ser Gly Thr Ala Ser Thr Val Gly Gly  
 1 5 10 15

55 Thr Thr Gly Ser Thr Ala Ser Gly Thr Ser Gly Gln Ser Thr Thr Ala  
 20 25 30

Pro Asn Leu Val Pro Gly Val Gly Ala Ser Met Phe Asn Thr Pro Gly  
 35 40 45

60



657

Met Gln Ser Leu Leu Gln Gln Ile Thr Glu Asn Pro Gln Leu Met Gln  
 50 55 60

5 Asn Met Leu Ser Ala Pro Tyr  
 65 70

(2) INFORMATION FOR SEQ ID NO: 591:

10

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 45 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 591:

Met Arg Ser Met Met Gln Ser Leu Ser Gln Asn Pro Asp Leu Ala Ala  
 1 5 10 15

20

Gln Met Met Leu Asn Asn Pro Leu Phe Ala Gly Asn Pro Gln Leu Gln  
 20 25 30

Glu Gln Met Arg Gln Gln Leu Pro Thr Phe Leu Gln Gln  
 35 40 45

25

(2) INFORMATION FOR SEQ ID NO: 592:

30

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 73 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 592:

35

Met Gln Asn Pro Asp Thr Leu Ser Ala Met Ser Asn Pro Arg Ala Met  
 1 5 10 15

40

Gln Ala Leu Leu Gln Ile Gln Gln Gly Leu Gln Thr Leu Ala Thr Glu  
 20 25 30

Ala Pro Gly Leu Ile Pro Gly Phe Thr Pro Gly Leu Gly Ala Leu Gly  
 35 40 45

45

Ser Thr Gly Gly Ser Ser Gly Thr Asn Gly Ser Asn Ala Thr Pro Ser  
 50 55 60

50

Glu Asn Thr Ser Pro Thr Ala Gly Thr  
 65 70

(2) INFORMATION FOR SEQ ID NO: 593:

55

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 72 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 593:

60

658

Thr Gln Pro Gly His Gln Gln Phe Ile Gln Gln Met Leu Gln Ala Leu  
 1 5 10 15  
 Ala Gly Val Asn Pro Gln Leu Gln Asn Pro Glu Val Arg Phe Gln Gln  
 5 20 25 30  
 Gln Leu Gln Gln Leu Ser Ala Met Gly Phe Leu Asn Arg Glu Ala Asn  
 35 40 45  
 Leu Gln Ala Leu Ile Ala Thr Gly Gly Asp Ile Asn Ala Ala Ile Glu  
 50 55 60  
 Arg Leu Leu Gly Ser Gln Pro Ser  
 65 70  
 15

(2) INFORMATION FOR SEQ ID NO: 594:

20 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 45 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 594:  
 25 Arg Asn Pro Ala Met Met Gln Glu Met Met Arg Asn Gln Asp Arg Ala  
 1 5 10 15  
 Leu Ser Asn Leu Glu Ser Ile Pro Gly Gly Tyr Asn Ala Leu Arg Arg  
 30 20 25 30  
 Met Tyr Thr Asp Ile Gln Glu Pro Met Leu Ser Ala Ala  
 35 40 45

35

(2) INFORMATION FOR SEQ ID NO: 595:

40 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 13 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 595:

45 Gly Asn Pro Phe Ala Ser Leu Val Ser Asn Thr Ser Ser  
 1 5 10

50 (2) INFORMATION FOR SEQ ID NO: 596:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 11 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 596:

Glu Asn Arg Asp Pro Leu Pro Asn Pro Trp Ala  
 1 5 10  
 60

## (2) INFORMATION FOR SEQ ID NO: 597:

5 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 17 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 597:  
10 Gly Lys Ile Leu Lys Asp Gln Asp Thr Leu Ser Gln His Gly Ile His  
1 5 10 15  
15 Asp

## (2) INFORMATION FOR SEQ ID NO: 598:

20 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 14 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear  
25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 598:  
Gly Leu Thr Val His Leu Val Ile Lys Thr Gln Asn Arg Pro  
1 5 10

## (2) INFORMATION FOR SEQ ID NO: 599:

35 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 599:  
40 Ser Glu Leu Gln Ser Gln Met Gln Arg Gln Leu Leu Ser Asn Pro Glu  
1 5 10 15  
Met Met

## (2) INFORMATION FOR SEQ ID NO: 600:

50 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 14 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 600:  
55 Pro Glu Ile Ser His Met Leu Asn Asn Pro Asp Ile Met Arg  
1 5 10

## (2) INFORMATION FOR SEQ ID NO: 501:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 18 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 501:

Arg Gln Leu Ile Met Ala Asn Pro Gln Met Gln Gln Leu Ile Gln Arg  
 1 5 10 15

Asn Pro

## (2) INFORMATION FOR SEQ ID NO: 502:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 27 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 502:

Asn Leu Cys His Val Asp Cys Gln Asp Leu Leu Asn Pro Asn Leu Leu  
 1 5 10 15

Ala Gly Ile His Cys Ala Lys Arg Ile Val Ser  
 20 25

## (2) INFORMATION FOR SEQ ID NO: 503:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 23 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 503:

Leu Asp Gly Phe Glu Gly Tyr Ser Leu Ser Asp Trp Leu Cys Leu Ala  
 1 5 10 15

Phe Val Glu Ser Lys Phe Asn  
 20

## (2) INFORMATION FOR SEQ ID NO: 504:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 22 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 504:

Asn Glu Asn Ala Asp Gly Ser Phe Asp Tyr Gly Leu Phe Gln Ile Asn  
 1 5 10 15

Ser His Tyr Trp Cys Asn

661

20

## 5 (2) INFORMATION FOR SEQ ID NO: 605:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 27 amino acids

(B) TYPE: amino acid

10 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 605:

Asn Leu Cys His Val Asp Cys Gln Asp Leu Leu Asn Pro Asn Leu Leu  
1 5 10 15

15 Ala Gly Ile His Cys Ala Lys Arg Ile Val Ser  
20 25

20

## (2) INFORMATION FOR SEQ ID NO: 606:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 13 amino acids

25 (B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 606:

30 Ile Arg Glu Val Asn Glu Val Ile Gln Asn Pro Ala Thr  
1 5 10

## 35 (2) INFORMATION FOR SEQ ID NO: 607:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: ~30 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## 40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 607:

Ile Thr Arg Ile Leu Leu Ser His Phe Asn Trp Asp Lys Glu Lys Leu  
1 5 10 15

45 Met Glu Arg Tyr Phe Asp Gly Asn Leu Glu Lys Leu Phe Ala  
20 25 30

## 50 (2) INFORMATION FOR SEQ ID NO: 608:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 23 amino acids

(B) TYPE: amino acid

55 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 608:

Asn Thr Arg Ser Ser Ala Gln Asp Met Pro Cys Gln Ile Cys Tyr Leu  
1 5 10 15

60

662

Asn Tyr Pro Asn Ser Tyr Phe  
20

5

(2) INFORMATION FOR SEQ ID NO: 609:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 60 amino acids

10

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 609:

15

Cys Asp Ile Leu Val Asp Asp Asn Thr Val Met Arg Leu Ile Thr Asp  
1 5 10 15

Ser Lys Val Lys Leu Lys Tyr Gln His Leu Ile Thr Asn Ser Phe Val  
20 25 30

20

Glu Cys Asn Arg Leu Leu Lys Trp Cys Pro Ala Pro Asp Cys His His  
35 40 45

Val Val Lys Val Gln Tyr Pro Asp Ala Lys Pro Val  
50 55 60

25

(2) INFORMATION FOR SEQ ID NO: 610:

30

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 52 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 610:

35

Cys Asp Ile Leu Val Asp Asp Asn Thr Val Met Arg Leu Ile Thr Asp  
1 5 10 15

40

Ser Lys Val Lys Leu Lys Tyr Gln His Leu Ile Thr Asn Ser Phe Val  
20 25 30

Glu Cys Asn Arg Leu Leu Lys Trp Cys Pro Ala Pro Asp Cys His His  
35 40 45

45

Val Val Lys Val  
50

50

(2) INFORMATION FOR SEQ ID NO: 611:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 60 amino acids

(B) TYPE: amino acid

55

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 611:

Gly Cys Asn His Met Val Cys Arg Asn Gln Asn Cys Lys Ala Glu Phe  
1 5 10 15

60

663

Cys Trp Val Cys Leu Gly Pro Trp Glu Pro His Gly Ser Ala Trp Tyr  
                   20                  25                  30

5 Asn Cys Asn Arg Tyr Asn Glu Asp Asp Ala Lys Ala Ala Arg Asp Ala  
                   35                  40                  45

Gln Glu Arg Ser Arg Ala Ala Leu Gln Arg Tyr Leu  
           50                  55                  60

10

(2) INFORMATION FOR SEQ ID NO: 612:

15 (i) SEQUENCE CHARACTERISTICS:  
       (A) LENGTH: 60 amino acids  
       (B) TYPE: amino acid  
       (D) TOPOLOGY: linear  
      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 612:

20 Phe Tyr Cys Asn Arg Tyr Met Asn His Met Gln Ser Leu Arg Phe Glu  
      1                  5                  10                  15

His Lys Leu Tyr Ala Gln Val Lys Gln Lys Met Glu Glu Met Gln Gln  
                   20                  25                  30

25

His Asn Met Ser Trp Ile Glu Val Gln Phe Leu Lys Lys Ala Val Asp  
                   35                  40                  45

30 Val Leu Cys Gln Cys Arg Ala Thr Leu Met Tyr Thr  
      50                  55                  60

(2) INFORMATION FOR SEQ ID NO: 613:

35 (i) SEQUENCE CHARACTERISTICS:  
       (A) LENGTH: 60 amino acids  
       (B) TYPE: amino acid  
       (D) TOPOLOGY: linear  
      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 613:

Tyr Val Phe Ala Phe Tyr Leu Lys Lys Asn Asn Gln Ser Ile Ile Phe  
      1                  5                  10                  15

45 Glu Asn Asn Gln Ala Asp Leu Glu Asn Ala Thr Glu Val Leu Ser Gly  
                   20                  25                  30

Tyr Leu Glu Arg Asp Ile Ser Gln Asp Ser Leu Gln Asp Ile Lys Gln  
                   35                  40                  45

50

Lys Val Gln Asp Lys Tyr Arg Tyr Cys Glu Ser Arg  
           50                  55                  60

55

(2) INFORMATION FOR SEQ ID NO: 614:

60 (i) SEQUENCE CHARACTERISTICS:  
       (A) LENGTH: 37 amino acids  
       (B) TYPE: amino acid

664

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 614:

5 Thr Gly Leu Glu Cys Gly His Lys Phe Cys Met Gln Cys Trp Ser Glu  
 1 5 10 15

Tyr Leu Thr Thr Lys Ile Met Glu Glu Gly Met Gly Gln Thr Ile Ser  
 20 25 30

10 Cys Pro Ala His Gly  
 35

15 (2) INFORMATION FOR SEQ ID NO: 615:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 21 amino acids

(B) TYPE: amino acid

20 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 615:

Met Trp Gly Tyr Leu Phe Val Asp Ala Ala Trp Asn Phe Leu Gly Cys  
 1 5 10 15

25 Leu Ile Cys Gly Trp  
 20

30

(2) INFORMATION FOR SEQ ID NO: 616:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 46 amino acids

35 (B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 616:

40 Met His Phe Ile Ser Ser Gly Asn Val Ser Ala Ile Arg Ser Ser Ile  
 1 5 10 15

Leu Leu Leu Arg Xaa Ser Leu Ser Tyr Leu Gly Asn Cys Leu Arg Val  
 20 25 30

45 Ser Ala Ile Phe Val Tyr Phe Leu Leu Phe Leu Leu Ser  
 35 40 45

50 (2) INFORMATION FOR SEQ ID NO: 617:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 80 amino acids

(B) TYPE: amino acid

55 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 617:

Met Asp Gln Ala Leu Arg Gly Ser Pro Ser Glu Gly Phe Ser Thr Asp  
 1 5 10 15

60



665

Pro Ser Pro Pro Gln Val Gly Arg Gln Ile Pro Ser Phe Pro Pro Trp  
                   20                  25                  30

Arg Arg Leu Val Leu Pro Lys Ala Ser Gly Cys Phe Leu Glu Arg Glu  
   5                  35                  40                  45

Trp Trp Leu Cys Val Phe Lys Leu Arg Thr Arg Pro Gly Ala Glu Ala  
                   50                  55                  60

10 His Ala Tyr Asn Ser Ser Ile Leu Gly Gly Arg Gly Lys Gly Ile Thr  
                   65                  70                  75                  80

15

(2) INFORMATION FOR SEQ ID NO: 618:

20

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 131 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 618:

25

Met Leu Pro Ala Leu Ala Ser Cys Cys His Phe Ser Pro Pro Glu Gln  
   1                  5                  10                  15

30

Ala Ala Arg Leu Lys Lys Leu Gln Glu Gln Glu Lys Gln Gln Lys Val  
                   20                  25                  30

Glu Phe Arg Lys Arg Met Glu Lys Glu Val Ser Asp Phe Ile Gln Asp  
                   35                  40                  45

35

Ser Gly Gln Ile Lys Lys Lys Phe Gln Pro Met Asn Lys Ile Glu Arg  
                   50                  55                  60

Ser Ile Leu His Asp Val Val Glu Val Ala Gly Leu Thr Ser Phe Ser  
   65                  70                  75                  80

40

Phe Gly Glu Asp Asp Asp Cys Arg Tyr Val Met Ile Phe Lys Lys Glu  
                   85                  90                  95

45

Phe Ala Pro Ser Asp Glu Glu Leu Asp Ser Tyr Arg Arg Gly Glu Glu  
                   100                  105                  110

Trp Asp Pro Gln Lys Ala Glu Glu Lys Arg Asn Xaa Lys Glu Leu Ala  
                   115                  120                  125

50

Gln Arg Gln  
                   130

55

(2) INFORMATION FOR SEQ ID NO: 619:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 76 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

60

666

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 619:

5      Glu Glu Glu Ala Ala Gln Gln Gly Pro Val Val Val Ser Pro Ala Ser  
       1                  5                  10                  15  
     Asp Tyr Lys Asp Lys Tyr Ser His Leu Ile Gly Lys Gly Ala Ala Lys  
       20                  25                  30  
 10     Asp Ala Ala His Met Leu Gln Ala Asn Lys Thr Tyr Gly Cys Xaa Pro  
       35                  40                  45  
     Val Ala Asn Lys Arg Asp Thr Arg Ser Ile Glu Glu Ala Met Asn Glu  
       50                  55                  60  
 15     Ile Arg Ala Lys Lys Arg Leu Arg Gln Ser Gly Glu  
       65                  70                  75

20    (2) INFORMATION FOR SEQ ID NO: 620:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 40 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 620:

30     Pro Pro Arg Arg Pro Ala Gln Leu Pro Leu Thr Pro Gly Ala Gly Gln  
       1                  5                  10                  15  
     Gly Ala Gly Arg Asp Lys Ala Ala Ala Ile Arg Ala His Pro Gly Ala  
       20                  25                  30  
 35     Pro Pro Leu Asn His Leu Leu Pro  
       35                  40

40    (2) INFORMATION FOR SEQ ID NO: 621:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 28 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

45

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 621:

50     Ala Val Pro Gln Ala Gly Gly Lys Gln Val Phe Asp Leu Ser Pro Leu  
       1                  5                  10                  15  
     Glu Leu Gly Tyr Val Arg Gly Met Cys Val Cys Val  
       20                  25

55    (2) INFORMATION FOR SEQ ID NO: 622:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 207 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

60

667

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 622:

5 Met Leu Pro Ala Leu Ala Ser Cys Cys His Phe Ser Pro Pro Glu Gln  
 1 5 10 15  
 10 Ala Ala Arg Leu Lys Lys Leu Gln Glu Gln Glu Lys Gln Gln Lys Val  
 20 25 30  
 15 Glu Phe Arg Lys Arg Met Glu Lys Glu Val Ser Asp Phe Ile Gln Asp  
 35 40 45  
 20 Ser Gly Gln Ile Lys Lys Lys Phe Gln Pro Met Asn Lys Ile Glu Arg  
 50 55 60  
 25 Ser Ile Leu His Asp Val Val Glu Val Ala Gly Leu Thr Ser Phe Ser  
 65 70 75 80  
 30 Phe Gly Glu Asp Asp Asp Cys Arg Tyr Val Met Ile Phe Lys Lys Glu  
 85 90 95  
 35 Phe Ala Pro Ser Asp Glu Glu Leu Asp Ser Tyr Arg Arg Gly Glu Glu  
 100 105 110  
 40 Trp Asp Pro Gln Lys Ala Glu Glu Lys Arg Asn Xaa Lys Glu Leu Ala  
 115 120 125  
 45 Gln Arg Gln Glu Glu Glu Ala Ala Gln Gln Gly Pro Val Val Val Ser  
 130 135 140  
 50 Pro Ala Ser Asp Tyr Lys Asp Lys Tyr Ser His Leu Ile Gly Lys Gly  
 145 150 155 160  
 55 Ala Ala Lys Asp Ala Ala His Met Leu Gln Ala Asn Lys Thr Tyr Gly  
 165 170 175  
 60 Cys Xaa Pro Val Ala Asn Lys Arg Asp Thr Arg Ser Ile Glu Glu Ala  
 180 185 190  
 65 Met Asn Glu Ile Arg Ala Lys Lys Arg Leu Arg Gln Ser Gly Glu  
 195 200 205

(2) INFORMATION FOR SEQ ID NO: 623:

45

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 34 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

50

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 623:

55 Leu Leu Cys Pro Val Leu Asn Ser Gly Xaa Ser Trp Asn Phe Pro His  
 1 5 10 15  
 60 Pro Ser Gln Pro Glu Tyr Ser Phe His Gly Phe His Ser Thr Arg Leu  
 20 25 30  
 65 Trp Ile

60

## (2) INFORMATION FOR SEQ ID NO: 624:

- 5 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 28 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 624:

10 Pro Ser Thr Pro Trp Phe Leu Phe Leu Leu Gly Leu Thr Cys Pro Phe  
 1 5 10 15  
 15 Ser Thr Ser His Pro Arg Trp Asp Ser Ile Pro Pro  
 20 25

## (2) INFORMATION FOR SEQ ID NO: 625:

- 20 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 227 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 625:

Glu Leu Ser Ile Ser Ile Ser Asn Val Ala Leu Ala Asp Glu Gly Glu  
 1 5 10 15  
 30 Tyr Thr Cys Ser Ile Phe Thr Met Pro Val Arg Thr Ala Lys Ser Leu  
 20 25 30  
 Val Thr Val Leu Gly Ile Pro Gln Lys Pro Ile Ile Thr Gly Tyr Lys  
 35 35 40 45  
 Ser Ser Leu Arg Glu Lys Asp Thr Ala Thr Leu Asn Cys Gln Ser Ser  
 50 55 60  
 40 Gly Ser Lys Pro Ala Ala Arg Leu Thr Trp Arg Lys Gly Asp Gln Glu  
 65 70 75 80  
 Leu His Gly Glu Pro Thr Arg Ile Gln Glu Asp Pro Asn Gly Lys Thr  
 85 90 95  
 45 Phe Thr Val Ser Ser Ser Val Thr Phe Gln Val Thr Arg Glu Asp Asp  
 100 105 110  
 Gly Ala Ser Ile Val Cys Ser Val Asn His Glu Ser Leu Lys Gly Ala  
 115 120 125  
 50 Asp Arg Ser Thr Ser Gln Arg Ile Glu Val Leu Tyr Thr Pro Thr Ala  
 130 135 140  
 55 Met Ile Arg Pro Asp Pro Pro His Pro Arg Glu Gly Gln Lys Leu Leu  
 145 150 155 160  
 Leu His Cys Glu Gly Arg Gly Asn Pro Val Pro Gln Gln Tyr Leu Trp  
 165 170 175  
 60 Glu Lys Glu Gly Ser Val Pro Pro Leu Lys Met Thr Gln Glu Ser Ala

180 185 190

Leu Ile Phe Pro Phe Leu Asn Lys Ser Asp Ser Gly Thr Tyr Gly Cys  
195 200 205

5 Thr Ala Thr Ser Asn Met Gly Ser Tyr Lys Ala Tyr Tyr Thr Leu Asn  
210 215 220

10 Val Asn Asp  
225

15 (2) INFORMATION FOR SEQ ID NO: 626:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 64 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear

20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 626:

Glu Leu Ser Ile Ser Ile Ser Asn Val Ala Leu Ala Asp Glu Gly Glu  
1 5 10 15

25 Tyr Thr Cys Ser Ile Phe Thr Met Pro Val Arg Thr Ala Lys Ser Leu  
20 25 30

Val Thr Val Leu Gly Ile Pro Gln Lys Pro Ile Ile Thr Gly Tyr Lys  
35 40 45

30 Ser Ser Leu Arg Glu Lys Asp Thr Ala Thr Leu Asn Cys Gln Ser Ser  
50 55 60

35

(2) INFORMATION FOR SEQ ID NO: 627:

40 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 65 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear

45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 627:

Cys Gln Ser Ser Gly Ser Lys Pro Ala Ala Arg Leu Thr Trp Arg Lys  
1 5 10 15

50 Gly Asp Gln Glu Leu His Gly Glu Pro Thr Arg Ile Gln Glu Asp Pro  
20 25 30

Asn Gly Lys Thr Phe Thr Val Ser Ser Ser Val Thr Phe Gln Val Thr  
35 40 45

55 Arg Glu Asp Asp Gly Ala Ser Ile Val Cys Ser Val Asn His Glu Ser  
50 55 60

60 Leu  
65

## (2) INFORMATION FOR SEQ ID NO: 628:

5

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 58 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

10

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 628:

His Glu Ser Leu Lys Gly Ala Asp Arg Ser Thr Ser Gln Arg Ile Glu  
 1 5 10 15

15

Val Leu Tyr Thr Pro Thr Ala Met Ile Arg Pro Asp Pro Pro His Pro  
 20 25 30

Arg Glu Gly Gln Lys Leu Leu Leu His Cys Glu Gly Arg Gly Asn Pro  
 35 40 45

20

Val Pro Gln Gln Tyr Leu Trp Glu Lys Glu  
 50 55

25

## (2) INFORMATION FOR SEQ ID NO: 629:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 52 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

30

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 629:

Trp Glu Lys Glu Gly Ser Val Pro Pro Leu Lys Met Thr Gln Glu Ser  
 35 1 5 10 15

Ala Leu Ile Phe Pro Phe Leu Asn Lys Ser Asp Ser Gly Thr Tyr Gly  
 20 25 30

40

Cys Thr Ala Thr Ser Asn Met Gly Ser Tyr Lys Ala Tyr Tyr Thr Leu  
 35 40 45

Asn Val Asn Asp  
 50

45

## (2) INFORMATION FOR SEQ ID NO: 630:

50

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 123 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 630:

55

Val Pro Glu Leu Pro Asp Arg Val His Gln Leu His Gln Ala Val Gln  
 1 5 10 15

60

Gly Cys Ala Leu Gly Arg Pro Gly Phe Pro Gly Gly Pro Thr His Ser  
 20 25 30

671

Gly His His Lys Ser His Pro Gly Pro Ala Gly Gly Asp Tyr Asn Arg  
                   35                  40                  45  
 5 Cys Asp Arg Pro Gly Gln Val His Leu His Asn Pro Arg Gly Thr Gly  
           50                  55                  60  
 Arg Arg Gly Gln Leu His Pro Thr Ala Gly Pro Gly Val His Arg Arg  
   65                  70                  75                  80  
 10 Ala Cys Pro Ser Gln Gln Leu Pro His Arg Leu Gly Pro Gly Val Pro  
                   85                  90                  95  
 15 Cys Pro Ser Pro Ser Leu Thr Pro Val Leu Pro Ser Trp Thr Gln Ser  
                   100                  105                  110  
 Trp Cys Gly Leu Pro Gly Tyr Thr Ser Ser Ser  
           115                  120

20

(2) INFORMATION FOR SEQ ID NO: 631:

25 (i) SEQUENCE CHARACTERISTICS:  
       (A) LENGTH: 22 amino acids  
       (B) TYPE: amino acid  
       (D) TOPOLOGY: linear  
       (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 631:

30 Val His Gln Leu His Gln Ala Val Gln Gly Cys Ala Leu Gly Arg Pro  
       1                  5                  10                  15  
 Gly Phe Pro Gly Gly Pro  
                   20

35

(2) INFORMATION FOR SEQ ID NO: 632:

40 (i) SEQUENCE CHARACTERISTICS:  
       (A) LENGTH: 42 amino acids  
       (B) TYPE: amino acid  
       (D) TOPOLOGY: linear  
       (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 632:

45 Pro Thr His Ser Gly His His Lys Ser His Pro Gly Pro Ala Gly Gly  
       1                  5                  10                  15  
 50 Asp Tyr Asn Arg Cys Asp Arg Pro Gly Gln Val His Leu His Asn Pro  
           20                  25                  30  
 Arg Gly Thr Gly Arg Arg Gly Gln Leu His  
           35                  40

55

(2) INFORMATION FOR SEQ ID NO: 633:

60 (i) SEQUENCE CHARACTERISTICS:  
       (A) LENGTH: 55 amino acids

672

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 633:

5 Leu His Pro Thr Ala Gly Pro Gly Val His Arg Arg Ala Cys Pro Ser  
 1 5 10 15  
 Gln Gln Leu Pro His Arg Leu Gly Pro Gly Val Pro Cys Pro Ser Pro  
 20 25 30  
 10 Ser Leu Thr Pro Val Leu Pro Ser Trp Thr Gln Ser Trp Cys Gly Leu  
 35 40 45  
 Pro Gly Tyr Thr Ser Ser Ser  
 15 50 55

(2) INFORMATION FOR SEQ ID NO: 634:

20

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 276 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 634:

Ser Leu Arg Arg Pro Arg Ser Ala Ala Xaa Gln Thr Leu Thr Thr Phe  
 1 5 10 15  
 30 Leu Ser Ser Val Ser Ser Ala Ser Ser Ser Ala Leu Pro Gly Ser Arg  
 20 25 30  
 Glu Pro Cys Asp Pro Arg Ala Pro Pro Pro Pro Arg Ser Gly Ser Ala  
 35 40 45  
 35 Ala Ser Cys Cys Ser Cys Cys Cys Ser Cys Pro Arg Arg Arg Ala Pro  
 50 55 60  
 40 Leu Arg Ser Pro Arg Gly Ser Lys Arg Arg Ile Arg Gln Arg Glu Val  
 65 70 75 80  
 Val Asp Leu Tyr Asn Gly Met Cys Leu Gln Gly Pro Ala Gly Val Pro  
 85 90 95  
 45 Gly Arg Asp Gly Ser Pro Gly Ala Asn Gly Ile Pro Gly Thr Pro Gly  
 100 105 110  
 Ile Pro Gly Arg Asp Gly Phe Lys Gly Glu Lys Gly Glu Cys Leu Arg  
 115 120 125  
 50 Glu Ser Phe Glu Glu Ser Trp Thr Pro Asn Tyr Lys Gln Cys Ser Trp  
 130 135 140  
 Ser Ser Leu Asn Tyr Gly Ile Asp Leu Gly Lys Ile Ala Glu Cys Thr  
 145 150 155 160  
 Phe Thr Lys Met Arg Ser Asn Ser Ala Leu Arg Val Leu Phe Ser Gly  
 165 170 175  
 60 Ser Leu Arg Leu Lys Cys Arg Asn Ala Cys Cys Gln Arg Trp Tyr Phe



673

180 185 190

Thr Phe Asn Gly Ala Glu Cys Ser Gly Pro Leu Pro Ile Glu Ala Ile  
195 200 205

5 Ile Tyr Leu Asp Gln Gly Ser Pro Glu Met Asn Ser Thr Ile Asn Ile  
210 215 220

10 His Arg Thr Ser Ser Val Glu Gly Leu Cys Glu Gly Ile Gly Ala Gly  
225 230 235 240

Leu Val Asp Val Ala Ile Trp Val Gly Thr Cys Ser Asp Tyr Pro Lys  
245 250 255

15 Gly Asp Ala Ser Thr Gly Trp Asn Ser Val Ser Arg Ile Ile Ile Glu  
260 265 270

Glu Leu Pro Lys  
275

20

(2) INFORMATION FOR SEQ ID NO: 635:

25 (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 635:

30 Ser Leu Arg Arg Pro Arg Ser Ala Ala Xaa Gln Thr Leu Thr Thr Phe  
1 5 10 15

35 Leu Ser Ser Val Ser Ser Ala Ser Ser Ser Ala Leu Pro Gly Ser Arg  
20 25 30

Glu Pro Cys Asp Pro Arg Ala Pro Pro Pro Pro Arg Ser Gly Ser Ala  
35 40 45

40 Ala Ser Cys Cys Ser Cys Cys Cys Ser Cys Pro Arg Arg  
50 55 60

45 (2) INFORMATION FOR SEQ ID NO: 636:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 52 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear  
50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 636:

Arg Ala Pro Leu Arg Ser Pro Arg Gly Ser Lys Arg Arg Ile Arg Gln  
1 5 10 15

55 Arg Glu Val Val Asp Leu Tyr Asn Gly Met Cys Leu Gln Gly Pro Ala  
20 25 30

Gly Val Pro Gly Arg Asp Gly Ser Pro Gly Ala Asn Gly Ile Pro Gly  
35 40 45

60

Thr Pro Gly Ile  
50

5

(2) INFORMATION FOR SEQ ID NO: 637:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 52 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 637:

15 Thr Pro Gly Ile Pro Gly Arg Asp Gly Phe Lys Gly Glu Lys Gly Glu  
1 5 10 15

Cys Leu Arg Glu Ser Phe Glu Glu Ser Trp Thr Pro Asn Tyr Lys Gln  
20 25 30

20 Cys Ser Trp Ser Ser Leu Asn Tyr Gly Ile Asp Leu Gly Lys Ile Ala  
35 40 45

25 Glu Cys Thr Phe  
50

(2) INFORMATION FOR SEQ ID NO: 638:

30

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 66 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 638:

Phe Thr Lys Met Arg Ser Asn Ser Ala Leu Arg Val Leu Phe Ser Gly  
1 5 10 15

40 Ser Leu Arg Leu Lys Cys Arg Asn Ala Cys Cys Gln Arg Trp Tyr Phe  
20 25 30

Thr Phe Asn Gly Ala Glu Cys Ser Gly Pro Leu Pro Ile Glu Ala Ile  
35 40 45

45 Ile Tyr Leu Asp Gln Gly Ser Pro Glu Met Asn Ser Thr Ile Asn Ile  
50 55 60

50 His Arg  
65

(2) INFORMATION FOR SEQ ID NO: 639:

55

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 51 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

60 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 639:

675

Arg Thr Ser Ser Val Glu Gly Leu Cys Glu Gly Ile Gly Ala Gly Leu  
1 5 10 15

5 Val Asp Val Ala Ile Trp Val Gly Thr Cys Ser Asp Tyr Pro Lys Gly  
20 25 30

Asp Ala Ser Thr Gly Trp Asn Ser Val Ser Arg Ile Ile Ile Glu Glu  
35 40 45

10

Leu Pro Lys  
50

15

(2) INFORMATION FOR SEQ ID NO: 640:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 26 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

20

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 640:

Thr Lys Lys Glu Asn Cys Arg Pro Ala Ser Leu Met Asn Ile Asp Thr  
1 5 10 15

25

Lys Ile Leu Asn Lys Ile Leu Met Asn Gln  
20 25

30

(2) INFORMATION FOR SEQ ID NO: 641:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 214 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

35

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 641:

40 Met Cys Asn Leu Pro Ile Lys Val Val Cys Arg Ala Asn Ala Glu Tyr  
1 5 10 15

Met Ser Pro Ser Gly Lys Val Pro Xaa Xaa His Val Gly Asn Gln Val  
20 25 30

45

Val Ser Glu Leu Gly Pro Ile Val Gln Phe Val Lys Ala Lys Gly His  
35 40 45

Ser Leu Ser Asp Gly Leu Glu Glu Val Gln Lys Ala Glu Met Lys Ala  
50 55 60

50

Tyr Met Glu Leu Val Asn Asn Met Leu Leu Thr Ala Glu Leu Tyr Leu  
65 70 75 80

55

Gln Trp Cys Asp Glu Ala Thr Val Gly Xaa Ile Thr His Xaa Arg Tyr  
85 90 95

Gly Ser Pro Tyr Pro Trp Pro Leu Xaa His Ile Leu Ala Tyr Gln Lys  
100 105 110

60

676

Gln Trp Glu Val Lys Arg Lys Xaa Lys Ala Ile Gly Trp Gly Lys Lys  
 115 120 125  
 5 Thr Leu Asp Gln Val Leu Glu Asp Val Asp Gln Cys Cys Gln Ala Leu  
 130 135 140  
 Ser Gln Arg Leu Gly Thr Gln Pro Tyr Phe Phe Asn Lys Gln Pro Thr  
 145 150 155 160  
 10 Glu Leu Asp Ala Leu Val Phe Gly His Leu Tyr Thr Ile Leu Thr Thr  
 165 170 175  
 Gln Leu Thr Asn Asp Glu Leu Ser Glu Lys Val Lys Asn Tyr Ser Asn  
 180 185 190  
 15 Leu Leu Ala Phe Cys Arg Arg Ile Glu Gln His Tyr Phe Glu Asp Arg  
 195 200 205  
 20 Gly Lys Gly Arg Leu Ser  
 210

(2) INFORMATION FOR SEQ ID NO: 642:

25

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 44 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

30

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 642:

Met Cys Asn Leu Pro Ile Lys Val Val Cys Arg Ala Asn Ala Glu Tyr  
 1 5 10 15  
 35 Met Ser Pro Ser Gly Lys Val Pro Xaa Xaa His Val Gly Asn Gln Val  
 20 25 30  
 Val Ser Glu Leu Gly Pro Ile Val Gln Phe Val Lys  
 35 40  
 40

(2) INFORMATION FOR SEQ ID NO: 643:

45

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 44 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

50

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 643:

Phe Val Lys Ala Lys Gly His Ser Leu Ser Asp Gly Leu Glu Glu Val  
 1 5 10 15  
 55 Gln Lys Ala Glu Met Lys Ala Tyr Met Glu Leu Val Asn Asn Met Leu  
 20 25 30  
 Leu Thr Ala Glu Leu Tyr Leu Gln Trp Cys Asp Glu  
 35 40  
 60

## (2) INFORMATION FOR SEQ ID NO: 644:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 51 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 644:

5  
 10 Leu Gln Trp Cys Asp Glu Ala Thr Val Gly Xaa Ile Thr His Xaa Arg  
     1                    5                    10                    15  
     Tyr Gly Ser Pro Tyr Pro Trp Pro Leu Xaa His Ile Leu Ala Tyr Gln  
                     20                    25                    30  
 15 Lys Gln Trp Glu Val Lys Arg Lys Xaa Lys Ala Ile Gly Trp Gly Lys  
                     35                    40                    45  
     Lys Thr Leu  
 20                    50

## (2) INFORMATION FOR SEQ ID NO: 645:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 43 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 645:

25  
 30 Asp Gln Val Leu Glu Asp Val Asp Gln Cys Cys Gln Ala Leu Ser Gln  
     1                    5                    10                    15  
 35 Arg Leu Gly Thr Gln Pro Tyr Phe Phe Asn Lys Gln Pro Thr Glu Leu  
                     20                    25                    30  
     Asp Ala Leu Val Phe Gly His Leu Tyr Thr Ile  
                     35                    40

## (2) INFORMATION FOR SEQ ID NO: 646:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 41 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 646:

50  
     Leu Thr Thr Gln Leu Thr Asn Asp Glu Leu Ser Glu Lys Val Lys Asn  
     1                    5                    10                    15  
 55 Tyr Ser Asn Leu Leu Ala Phe Cys Arg Arg Ile Glu Gln His Tyr Phe  
                     20                    25                    30  
     Glu Asp Arg Gly Lys Gly Arg Leu Ser  
                     35                    40

60

## (2) INFORMATION FOR SEQ ID NO: 647:

- 5 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 70 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 647:

10 Met Xaa Xaa Xaa Asn Ser His Ile Thr Ile Phe Thr Leu Asn Val Asn  
 1 5 10 15  
 Gly Leu Asn Ala Pro Asn Glu Arg His Arg Leu Ala Asn Trp Ile Gln  
 20 25 30  
 15 Ser Gln Asp Gln Val Cys Cys Ile Gln Glu Thr His Leu Thr Gly Arg  
 35 40 45  
 20 Asp Thr His Arg Leu Lys Ile Lys Gly Trp Arg Lys Ile Tyr Gln Ala  
 50 55 60  
 Asn Gly Lys Gln Lys Lys  
 65 70

25

## (2) INFORMATION FOR SEQ ID NO: 648:

- 30 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 28 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 648:

35 Phe Thr Leu Asn Val Asn Gly Leu Asn Ala Pro Asn Glu Arg His Arg  
 1 5 10 15  
 Leu Ala Asn Trp Ile Gln Ser Gln Asp Gln Val Cys  
 20 25  
 40

## (2) INFORMATION FOR SEQ ID NO: 649:

- 45 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 17 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 649:

50 Thr His Leu Thr Gly Arg Asp Thr His Arg Leu Lys Ile Lys Gly Trp  
 1 5 10 15  
 55 Arg

60

## (2) INFORMATION FOR SEQ ID NO: 650:

679

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 14 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 650:

Gly Trp Arg Lys Ile Tyr Gln Ala Asn Gly Lys Gln Lys Lys  
 1 5 10

10

## (2) INFORMATION FOR SEQ ID NO: 651:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 54 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 651:

20 Ile Tyr His Leu His Ser Trp Ile Phe Phe His Phe Lys Arg Ala Phe  
 1 5 10 15

Cys Met Cys Phe Ile Thr Met Lys Val Ile His Ala His Cys Ser Lys  
 20 25 30

25

Leu Arg Lys Cys Xaa Asn Ala Gln Ile Ser Val Phe Cys Thr Thr Leu  
 35 40 45

30

Thr Ala Ser Tyr Pro Thr  
 50

## (2) INFORMATION FOR SEQ ID NO: 652:

35

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 23 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 652:

Ile Tyr His Leu His Ser Trp Ile Phe Phe His Phe Lys Arg Ala Phe  
 1 5 10 15

45

Cys Met Cys Phe Ile Thr Met  
 20

50

## (2) INFORMATION FOR SEQ ID NO: 653:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 31 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 653:

Lys Val Ile His Ala His Cys Ser Lys Leu Arg Lys Cys Xaa Asn Ala  
 1 5 10 15

60

680

Gln Ile Ser Val Phe Cys Thr Thr Leu Thr Ala Ser Tyr Pro Thr  
 20 25 30

5

(2) INFORMATION FOR SEQ ID NO: 654:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 58 amino acids

10

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 654:

15

Trp Asn Leu Leu Trp Tyr Phe Gln Arg Leu Arg Leu Pro Ser Ile Leu  
 1 5 10 15

Pro Gly Leu Val Leu Ala Ser Cys Asp Gly Pro Ser Xaa Ser Gln Ala  
 20 25 30

20

Pro Ser Pro Trp Leu Thr Pro Asp Pro Ala Ser Val Gln Val Arg Leu  
 35 40 45

Leu Trp Asp Val Leu Thr Pro Asp Pro Asn  
 50 55

25

(2) INFORMATION FOR SEQ ID NO: 655:

30

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 54 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 655:

35

Gln Arg Gly Ile Tyr Arg Glu Ile Leu Phe Leu Thr Met Ala Ala Leu  
 1 5 10 15

40

Gly Lys Asp His Val Asp Ile Val Ala Phe Asp Lys Lys Tyr Lys Ser  
 20 25 30

Ala Phe Asn Lys Leu Ala Ser Ser Met Gly Lys Glu Glu Leu Arg His  
 35 40 45

45

Arg Arg Ala Gln Met Pro  
 50

50

(2) INFORMATION FOR SEQ ID NO: 656:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 23 amino acids

(B) TYPE: amino acid

55

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 656:

Trp Asn Leu Leu Trp Tyr Phe Gln Arg Leu Arg Leu Pro Ser Ile Leu  
 1 5 10 15

60



681

Pro Gly Leu Val Leu Ala Ser  
20

5

(2) INFORMATION FOR SEQ ID NO: 657:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 191 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 657:

10

15

Glu Asp Asp Gly Phe Asn Arg Ser Ile His Glu Val Ile Leu Lys Asn  
1 5 10 15

Ile Thr Trp Tyr Ser Glu Arg Val Leu Thr Glu Ile Ser Leu Gly Ser  
20 25 30

20

Leu Leu Ile Leu Val Val Ile Arg Thr Ile Gln Tyr Asn Met Thr Arg  
35 40 45

25

Thr Arg Asp Lys Tyr Leu His Thr Asn Cys Leu Ala Ala Leu Ala Asn  
50 55 60

Met Ser Ala Gln Phe Arg Ser Leu His Gln Tyr Ala Ala Gln Arg Ile  
65 70 75 80

30

Ile Ser Leu Phe Ser Leu Leu Ser Lys Lys His Asn Lys Val Leu Glu  
85 90 95

Gln Ala Thr Gln Ser Leu Arg Gly Ser Leu Ser Ser Asn Asp Val Pro  
100 105 110

35

Leu Pro Asp Tyr Ala Gln Asp Leu Asn Val Ile Glu Glu Val Ile Arg  
115 120 125

Met Met Leu Glu Ile Ile Asn Ser Cys Leu Thr Asn Ser Leu His His  
130 135 140

40

Asn Pro Asn Leu Val Tyr Ala Leu Leu Tyr Lys Arg Asp Leu Phe Glu  
145 150 155 160

45

Gln Phe Arg Thr His Pro Ser Phe Gln Asp Ile Met Gln Asn Ile Asp  
165 170 175

Leu Val Ile Ser Phe Phe Ser Ser Arg Leu Leu Gln Ala Gly Ser  
180 185 190

50

(2) INFORMATION FOR SEQ ID NO: 658:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 38 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 658:

55

60

Glu Asp Asp Gly Phe Asn Arg Ser Ile His Glu Val Ile Leu Lys Asn

682

1                      5                      10                      15  
 Ile Thr Trp Tyr Ser Glu Arg Val Leu Thr Glu Ile Ser Leu Gly Ser  
                     20                      25                      30  
 5 Leu Leu Ile Leu Val Val  
                     35

10

(2) INFORMATION FOR SEQ ID NO: 659:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 53 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 659:

20 Arg Thr Ile Gln Tyr Asn Met Thr Arg Thr Arg Asp Lys Tyr Leu His  
     1                      5                      10                      15  
 Thr Asn Cys Leu Ala Ala Leu Ala Asn Met Ser Ala Gln Phe Arg Ser  
                     20                      25                      30  
 25 Leu His Gln Tyr Ala Ala Gln Arg Ile Ile Ser Leu Phe Ser Leu Leu  
                     35                      40                      45  
 Ser Lys Lys His Asn  
     50

30

(2) INFORMATION FOR SEQ ID NO: 660:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 56 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 660:

40

Ser Cys Leu Thr Asn Ser Leu His His Asn Pro Asn Leu Val Tyr Ala  
     1                      5                      10                      15  
 45 Leu Leu Tyr Lys Arg Asp Leu Phe Glu Gln Phe Arg Thr His Pro Ser  
                     20                      25                      30  
 Phe Gln Asp Ile Met Gln Asn Ile Asp Leu Val Ile Ser Phe Phe Ser  
                     35                      40                      45  
 50 Ser Arg Leu Leu Gln Ala Gly Ser  
     50                      55

55

(2) INFORMATION FOR SEQ ID NO: 661:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 31 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

60

683

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 661:

Lys Lys His Asn Lys Val Leu Glu Gln Ala Thr Gln Ser Leu Arg Gly  
 1 5 10 15  
 Ser Leu Ser Ser Asn Asp Val Pro Leu Pro Asp Tyr Ala Gln Asp  
 20 25 30

(2) INFORMATION FOR SEQ ID NO: 662:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 125 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 662:

Met Ala Asp Ile Gln Thr Glu Arg Ala Tyr Gln Lys Gln Pro Thr Ile  
 1 5 10 15  
 Phe Gln Asn Lys Lys Arg Val Leu Leu Gly Glu Thr Gly Lys Glu Lys  
 20 25 30  
 Leu Pro Arg Val Thr Asn Lys Asn Ile Gly Leu Gly Phe Lys Asp Thr  
 35 40 45  
 Pro Arg Arg Leu Leu Arg Gly Thr Tyr Ile Asp Lys Lys Cys Pro Phe  
 50 55 60  
 Thr Gly Asn Val Ser Ile Arg Gly Arg Ile Leu Ser Gly Val Val Thr  
 65 70 75 80  
 Gln Asp Glu Asp Ala Glu Asp His Cys His Pro Pro Arg Leu Ser Ala  
 85 90 95  
 Leu His Pro Gln Val Gln Pro Leu Arg Glu Ala Pro Gln Glu His Val  
 100 105 110  
 Cys Thr Pro Val Pro Leu Leu Gln Gly Arg Pro Asp Arg  
 115 120 125

(2) INFORMATION FOR SEQ ID NO: 663:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 79 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 663:

Met Lys Met Gln Arg Thr Ile Val Ile Arg Arg Asp Tyr Leu His Tyr  
 1 5 10 15  
 Ile Arg Lys Tyr Asn Arg Phe Glu Lys Arg His Lys Asn Met Ser Val  
 20 25 30  
 His Leu Ser Pro Cys Phe Arg Asp Val Gln Ile Gly Asp Ile Val Thr  
 35 40 45

684

Val Gly Glu Cys Arg Pro Leu Ser Lys Thr Val Arg Phe Asn Val Leu  
50 55 60

5 Lys Val Thr Lys Ala Ala Gly Thr Lys Lys Gln Phe Gln Lys Phe  
65 70 75

10 (2) INFORMATION FOR SEQ ID NO: 664:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 30 amino acids

(B) TYPE: amino acid

(C) TOPOLOGY: linear

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 664:

Met Ala Asp Ile Gln Thr Glu Arg Ala Tyr Gln Lys Gln Pro Thr Ile  
1 5 10 15

20

Phe Gln Asn Lys Lys Arg Val Leu Leu Gly Glu Thr Gly Lys  
20 25 30

25

(2) INFORMATION FOR SEQ ID NO: 665:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 58 amino acids

(B) TYPE: amino acid

(C) TOPOLOGY: linear

30

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 665:

Lys Leu Pro Arg Val Thr Asn Lys Asn Ile Gly Leu Gly Phe Lys Asp  
1 5 10 15

35

Thr Pro Arg Arg Leu Leu Arg Gly Thr Tyr Ile Asp Lys Lys Tyr Pro  
20 25 30

40

Phe Thr Gly Asn Val Ser Ile Arg Gly Arg Ile Leu Ser Gly Val Val  
35 40 45

Thr Gln Asp Glu Asp Ala Glu Asp His Cys  
50 55

45

(2) INFORMATION FOR SEQ ID NO: 666:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 38 amino acids

(B) TYPE: amino acid

(C) TOPOLOGY: linear

50

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 666:

His Cys His Pro Pro Arg Leu Ser Ala Leu His Pro Gln Val Gln Pro  
1 5 10 15

55

Leu Arg Glu Ala Pro Gln Glu His Val Cys Thr Pro Val Pro Leu Leu  
20 25 30

60

685

Gln Gly Arg Pro Asp Arg  
35

5

(2) INFORMATION FOR SEQ ID NO: 667:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 36 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 667:

15 Met Lys Met Gln Arg Thr Ile Val Ile Arg Arg Asp Tyr Leu His Tyr  
1 5 10 15

Ile Arg Lys Tyr Asn Arg Phe Glu Lys Arg His Lys Asn Met Ser Val  
20 25 30

20

His Leu Ser Pro  
35

25

(2) INFORMATION FOR SEQ ID NO: 668:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 43 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 668:

35 Cys Phe Arg Asp Val Gln Ile Gly Asp Ile Val Thr Val Gly Glu Cys  
1 5 10 15

Arg Pro Leu Ser Lys Thr Val Arg Phe Asn Val Leu Lys Val Thr Lys  
20 25 30

40 Ala Ala Gly Thr Lys Lys Gln Phe Gln Lys Phe  
35 40

45 (2) INFORMATION FOR SEQ ID NO: 669:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 33 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 669:

55 Pro Arg Arg Leu Leu Arg Gly Thr Tyr Ile Asp Lys Lys Cys Pro Phe  
1 5 10 15

Thr Gly Asn Val Ser Ile Arg Gly Arg Ile Leu Ser Gly Val Val Thr  
20 25 30

60

Gln

## (2) INFORMATION FOR SEQ ID NO: 670:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 60 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 670:

Ile Phe Tyr Asp Ser Asp Trp Asn Pro Thr Val Asp Gln Gln Ala Met  
1 5 10 15  
Asp Arg Ala His Arg Leu Gly Gln Thr Lys Gln Val Thr Val Tyr Arg  
20 25 30  
Leu Ile Cys Lys Gly Thr Ile Glu Glu Arg Ile Leu Gln Arg Ala Lys  
35 40 45  
Glu Lys Ser Glu Ile Gln Arg Met Val Ile Ser Gly  
50 55 60

## (2) INFORMATION FOR SEQ ID NO: 671:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 67 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 671:

Thr Arg Met Ile Asp Leu Leu Glu Glu Tyr Met Val Tyr Arg Lys His  
1 5 10 15  
Thr Tyr Xaa Arg Leu Asp Gly Ser Ser Lys Ile Ser Glu Arg Arg Asp  
20 25 30  
Met Val Ala Asp Phe Gln Asn Arg Asn Asp Ile Phe Val Phe Leu Leu  
35 40 45  
Ser Thr Arg Ala Gly Gly Leu Gly Ile Asn Leu Thr Ala Xaa Asp Thr  
50 55 60  
Val His Phe  
65

## (2) INFORMATION FOR SEQ ID NO: 672:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 32 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 672:

Ile Phe Tyr Asp Ser Asp Trp Asn Pro Thr Val Asp Gln Gln Ala Met  
1 5 10 15

687

Asp Arg Ala His Arg Leu Gly Gln Thr Lys Gln Val Thr Val Tyr Arg  
 20 25 30

5

10 (2) INFORMATION FOR SEQ ID NO: 673:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 31 amino acids

(B) TYPE: amino acid

15

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 673:

Val Tyr Arg Leu Ile Cys Lys Gly Thr Ile Glu Glu Arg Ile Leu Gln  
 1 5 10 15

20

Arg Ala Lys Glu Lys Ser Glu Ile Gln Arg Met Val Ile Ser Gly  
 20 25 30

25

(2) INFORMATION FOR SEQ ID NO: 674:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 33 amino acids

30

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 674:

Thr Arg Met Ile Asp Leu Leu Glu Glu Tyr Met Val Tyr Arg Lys His  
 1 5 10 15

35

Thr Tyr Xaa Arg Leu Asp Gly Ser Ser Lys Ile Ser Glu Arg Arg Asp  
 20 25 30

40 Met

45 (2) INFORMATION FOR SEQ ID NO: 675:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 38 amino acids

50

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 675:

Arg Arg Asp Met Val Ala Asp Phe Gln Asn Arg Asn Asp Ile Phe Val  
 1 5 10 15

55

Phe Leu Leu Ser Thr Arg Ala Gly Gly Leu Gly Ile Asn Leu Thr Ala  
 20 25 30

60

Xaa Asp Thr Val His Phe  
 35

688

(2) INFORMATION FOR SEQ ID NO: 676:

5

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 37 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

10

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 676:

Ile Phe Tyr Asp Ser Asp Trp Asn Pro Thr Val Asp Gln Gln Ala Met  
1 5 10 15

15

Asp Arg Ala His Arg Leu Gly Gln Thr Lys Gln Val Thr Val Tyr Arg  
20 25 30

Leu Ile Cys Lys Gly  
35

20

(2) INFORMATION FOR SEQ ID NO: 677:

25

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 37 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 677:

30

Ile Phe Tyr Asp Ser Asp Trp Asn Pro Thr Val Asp Gln Gln Ala Met  
1 5 10 15

35

Asp Arg Ala His Arg Leu Gly Gln Thr Lys Gln Val Thr Val Tyr Arg  
20 25 30

Leu Ile Cys Lys Gly  
35

40

(2) INFORMATION FOR SEQ ID NO: 678:

45

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 29 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 678:

50

Arg Leu Ile Cys Lys Gly Thr Ile Glu Glu Arg Ile Leu Gln Arg Ala  
1 5 10 15

Lys Glu Lys Ser Glu Ile Gln Arg Met Val Ile Ser Gly  
20 25

55

(2) INFORMATION FOR SEQ ID NO: 679:

60

(i) SEQUENCE CHARACTERISTICS:



689

(A) LENGTH: 364 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 679:

5 Met Ser Leu His Gly Lys Arg Lys Glu Ile Tyr Lys Tyr Glu Ala Pro  
 1 5 10 15  
 10 Trp Thr Val Tyr Ala Met Asn Trp Ser Val Arg Pro Asp Lys Arg Phe  
 20 25 30  
 Arg Leu Ala Leu Gly Ser Phe Val Glu Glu Tyr Asn Asn Lys Val Gln  
 35 40 45  
 15 Leu Val Gly Leu Asp Glu Glu Ser Ser Glu Phe Ile Cys Arg Asn Thr  
 50 55 60  
 Phe Asp His Pro Tyr Pro Thr Thr Lys Leu Met Trp Ile Pro Asp Thr  
 65 70 75 80  
 20 Lys Gly Val Tyr Pro Asp Leu Leu Ala Thr Ser Gly Asp Tyr Leu Arg  
 85 90 95  
 Val Trp Arg Val Gly Glu Thr Glu Thr Arg Leu Glu Cys Leu Leu Asn  
 100 105 110  
 25 Asn Asn Lys Asn Ser Asp Phe Cys Ala Pro Leu Thr Ser Phe Asp Trp  
 115 120 125  
 30 Asn Glu Val Asp Pro Tyr Leu Leu Gly Thr Ser Ser Ile Asp Thr Thr  
 130 135 140  
 Cys Thr Ile Trp Gly Leu Glu Thr Gly Gln Val Leu Gly Arg Val Asn  
 145 150 155 160  
 35 Leu Val Ser Gly His Val Lys Thr Gln Leu Ile Ala His Asp Lys Glu  
 165 170 175  
 Val Tyr Asp Ile Ala Phe Ser Arg Ala Gly Gly Gly Arg Asp Met Phe  
 180 185 190  
 40 Ala Ser Val Gly Ala Asp Gly Ser Val Arg Met Phe Asp Leu Arg His  
 195 200 205  
 45 Leu Glu His Ser Thr Ile Ile Tyr Glu Asp Pro Gln His His Pro Leu  
 210 215 220  
 Leu Arg Leu Cys Trp Asn Lys Gln Asp Pro Asn Tyr Leu Ala Thr Met  
 225 230 235 240  
 50 Ala Met Asp Gly Met Glu Val Val Ile Leu Asp Val Arg Val Pro Ala  
 245 250 255  
 His Leu Xaa Pro Gly Thr Thr Ile Glu His Val Ser Met Ala Leu Leu  
 260 265 270  
 55 Gly Pro His Ile His Pro Ala Thr Ser Ala Leu Gln Arg Met Thr Thr  
 275 280 285  
 60 Arg Leu Ser Ser Gly Thr Ser Ser Lys Cys Pro Glu Pro Leu Arg Thr

690

290                      295                      300

Leu Ser Trp Pro Thr Gln Leu Xaa Gly Glu Ile Asn Asn Val Gln Trp  
 305                      310                      315                      320

5  
 Ala Ser Thr Gln Pro Glu Leu Ser Pro Ser Ala Thr Thr Thr Ala Trp  
                     325                      330                      335

10  
 Arg Tyr Ser Glu Cys Ser Val Gly Gly Ala Val Pro Thr Arg Gln Gly  
                     340                      345                      350

Leu Leu Tyr Phe Leu Pro Leu Pro His Pro Gln Ser  
                     355                      360

15

(2) INFORMATION FOR SEQ ID NO: 680:

20                      (i) SEQUENCE CHARACTERISTICS:  
                             (A) LENGTH: 136 amino acids  
                             (B) TYPE: amino acid  
                             (D) TOPOLOGY: linear  
                     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 680:

25    Met Ser Leu His Gly Lys Arg Lys Glu Ile Tyr Lys Tyr Glu Ala Pro  
       1                      5                      10                      15

Trp Thr Val Tyr Ala Met Asn Trp Ser Val Arg Pro Asp Lys Arg Phe  
                     20                      25                      30

30    Arg Leu Ala Leu Gly Ser Phe Val Glu Glu Tyr Asn Asn Lys Val Gln  
                     35                      40                      45

35    Leu Val Gly Leu Asp Glu Glu Ser Ser Glu Phe Ile Cys Arg Asn Thr  
       50                      55                      60

Phe Asp His Pro Tyr Pro Thr Thr Lys Leu Met Trp Ile Pro Asp Thr  
       65                      70                      75                      80

40    Lys Gly Val Tyr Pro Asp Leu Leu Ala Thr Ser Gly Asp Tyr Leu Arg  
                     85                      90                      95

Val Trp Arg Val Gly Glu Thr Glu Thr Arg Leu Glu Cys Leu Leu Asn  
                     100                      105                      110

45    Asn Asn Lys Asn Ser Asp Phe Cys Ala Pro Leu Thr Ser Phe Asp Trp  
                     115                      120                      125

50    Asn Glu Val Asp Pro Tyr Leu Leu  
       130                      135

55                      (2) INFORMATION FOR SEQ ID NO: 681:

                            (i) SEQUENCE CHARACTERISTICS:  
                                 (A) LENGTH: 140 amino acids  
                                 (B) TYPE: amino acid  
                                 (D) TOPOLOGY: linear  
 60                      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 681:

691

Ser Phe Asp Trp Asn Glu Val Asp Pro Tyr Leu Leu Gly Thr Ser Ser  
 1 5 10 15  
 5 Ile Asp Thr Thr Cys Thr Ile Trp Gly Leu Glu Thr Gly Gln Val Leu  
 20 25 30  
 Gly Arg Val Asn Leu Val Ser Gly His Val Lys Thr Gln Leu Ile Ala  
 35 40 45  
 10 His Asp Lys Glu Val Tyr Asp Ile Ala Phe Ser Arg Ala Gly Gly Gly  
 50 55 60  
 Arg Asp Met Phe Ala Ser Val Gly Ala Asp Gly Ser Val Arg Met Phe  
 15 65 70 75 80  
 Asp Leu Arg His Leu Glu His Ser Thr Ile Ile Tyr Glu Asp Pro Gln  
 85 90 95  
 20 His His Pro Leu Leu Arg Leu Cys Trp Asn Lys Gln Asp Pro Asn Tyr  
 100 105 110  
 Leu Ala Thr Met Ala Met Asp Gly Met Glu Val Val Ile Leu Asp Val  
 115 120 125  
 25 Arg Val Pro Ala His Leu Xaa Pro Gly Thr Thr Ile  
 130 135 140

30

(2) INFORMATION FOR SEQ ID NO: 682:

(i) SEQUENCE CHARACTERISTICS:

35

(A) LENGTH: 170 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 682:

Val Gly Ala Asp Gly Ser Val Arg Met Phe Asp Leu Arg His Leu Glu  
 40 1 5 10 15  
 His Ser Thr Ile Ile Tyr Glu Asp Pro Gln His His Pro Leu Leu Arg  
 20 25 30  
 45 Leu Cys Trp Asn Lys Gln Asp Pro Asn Tyr Leu Ala Thr Met Ala Met  
 35 40 45  
 Asp Gly Met Glu Val Val Ile Leu Asp Val Arg Val Pro Ala His Leu  
 50 55 60  
 50 Xaa Pro Gly Thr Thr Ile Glu His Val Ser Met Ala Leu Leu Gly Pro  
 65 70 75 80  
 His Ile His Pro Ala Thr Ser Ala Leu Gln Arg Met Thr Thr Arg Leu  
 55 85 90 95  
 Ser Ser Gly Thr Ser Ser Lys Cys Pro Glu Pro Leu Arg Thr Leu Ser  
 100 105 110  
 60 Trp Pro Thr Gln Leu Xaa Gly Glu Ile Asn Asn Val Gln Trp Ala Ser

(2) INFORMATION FOR SEQ ID NO: 683:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 286 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 683:

Leu Tyr Ala Thr Ala Thr Val Ile Ser Ser Pro Ser Thr Glu Xaa Leu  
1 5 10 15

Ser Gln Asp Gln Gly Asp Arg Ala Ser Leu Asp Ala Ala Asp Ser Gly  
20 25 30

Arg Gly Ser Trp Thr Ser Cys Ser Ser Gly Ser His Asp Asn Ile Gln  
35 40 45

Thr Ile Gln His Gln Arg Ser Trp Glu Thr Leu Pro Phe Gly His Thr  
50 55 60

His Phe Asp Tyr Ser Gly Asp Pro Ala Gly Leu Trp Ala Ser Ser Ser  
65 70 75 80

His Met Asp Gln Ile Met Phe Ser Asp His Ser Thr Lys Tyr Asn Arg  
85 90 95

Gln Asn Gln Ser Arg Glu Ser Leu Glu Gln Ala Gln Ser Arg Ala Ser  
100 105 110

Trp Ala Ser Ser Thr Gly Tyr Trp Gly Glu Asp Ser Glu Gly Asp Thr  
115 120 125

Gly Thr Ile Lys Arg Arg Gly Gly Lys Asp Val Ser Ile Glu Ala Glu  
130 135 140

Ser Ser Ser Leu Thr Ser Val Thr Thr Glu Glu Thr Lys Pro Val Pro  
145 150 155 160

Met Pro Ala His Ile Ala Val Ala Ser Ser Thr Thr Lys Gly Leu Ile  
165 170 175

Ala Arg Lys Glu Gly Arg Tyr Arg Glu Pro Pro Pro Thr Pro Pro Gly  
180 185 190

Tyr Ile Gly Ile Pro Ile Thr Asp Phe Pro Glu Gly His Ser His Pro  
195 200 205

60

693

Ala Arg Lys Pro Pro Asp Tyr Asn Val Ala Leu Gln Arg Ser Arg Met  
 210 215 220

5 Val Ala Arg Ser Ser Asp Thr Ala Gly Pro Ser Ser Val Gln Gln Pro  
 225 230 235 240

His Gly His Pro Thr Ser Ser Arg Pro Val Asn Lys Pro Gln Trp His  
 245 250 255

10 Lys Xaa Asn Glu Ser Asp Pro Arg Leu Ala Pro Tyr Gln Ser Gln Gly  
 260 265 270

Phe Ser Thr Glu Glu Asp Glu Asp Glu Gln Val Ser Ala Val  
 275 280 285

15

(2) INFORMATION FOR SEQ ID NO: 684:

20 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 42 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 684:

25 His Met Asp Gln Ile Met Phe Ser Asp His Ser Thr Lys Tyr Asn Arg  
 1 5 10 15

30 Gln Asn Gln Ser Arg Glu Ser Leu Glu Gln Ala Gln Ser Arg Ala Ser  
 20 25 30

Trp Ala Ser Ser Thr Gly Tyr Trp Gly Glu  
 35 40

35

(2) INFORMATION FOR SEQ ID NO: 685:

40 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 51 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 685:

45 Ser Val Thr Thr Glu Glu Thr Lys Pro Val Pro Met Pro Ala His Ile  
 1 5 10 15

Ala Val Ala Ser Ser Thr Thr Lys Gly Leu Ile Ala Arg Lys Glu Gly  
 20 25 30

50 Arg Tyr Arg Glu Pro Pro Pro Thr Pro Pro Gly Tyr Ile Gly Ile Pro  
 35 40 45

Ile Thr Asp  
 55 50

(2) INFORMATION FOR SEQ ID NO: 686:

60

694

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 57 amino acids

(B) TYPE: amino acid

(C) TOPOLOGY: linear

## 5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 686:

Val Ala Leu Gln Arg Ser Arg Met Val Ala Arg Ser Ser Asp Thr Ala  
 1 5 10 15

10 Gly Pro Ser Ser Val Gln Gln Pro His Gly His Pro Thr Ser Ser Arg  
 20 25 30

Pro Val Asn Lys Pro Gln Trp His Lys Xaa Asn Glu Ser Asp Pro Arg  
 35 40 45

15 Leu Ala Pro Tyr Gln Ser Gln Gly Phe  
 50 55

20

## (2) INFORMATION FOR SEQ ID NO: 687:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 41 amino acids

25 (B) TYPE: amino acid

(C) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 687:

30 Cys Leu Leu Phe Val Phe Val Ser Leu Gly Met Arg Cys Leu Phe Trp  
 1 5 10 15

Thr Ile Val Tyr Asn Val Leu Tyr Leu Lys His Lys Cys Asn Thr Val  
 20 25 30

35 Leu Leu Cys Tyr His Leu Cys Ser Ile  
 35 40

40

## (2) INFORMATION FOR SEQ ID NO: 688:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 67 amino acids

45 (B) TYPE: amino acid

(C) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 688:

Ala Cys Ser Lys Leu Ile Pro Ala Phe Glu Met Val Met Arg Ala Lys  
 1 5 10 15

50 Asp Asn Val Tyr His Leu Asp Cys Phe Ala Cys Gln Leu Cys Asn Gln  
 20 25 30

55 Arg Xaa Cys Val Gly Asp Lys Phe Phe Leu Lys Asn Asn Xaa Xaa Leu  
 35 40 45

Cys Gln Thr Asp Tyr Glu Glu Gly Leu Met Lys Glu Gly Tyr Ala Pro  
 50 55 60

60 Xaa Val Arg

695

65

## 5 (2) INFORMATION FOR SEQ ID NO: 689:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 45 amino acids

(B) TYPE: amino acid

10 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 689:

Ser Ala Leu Ser Glu Pro Gly Ala Pro Asp Arg Arg Arg Pro Cys Pro  
 1 5 10 15

15 Glu Ser Val Pro Arg Arg Pro Asp Asp Glu Gln Trp Pro Pro Pro Thr  
 20 25 30

20 Ala Leu Cys Leu Asp Val Ala Pro Leu Pro Pro Ser Ser  
 35 40 45

## 25 (2) INFORMATION FOR SEQ ID NO: 690:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 43 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## 30 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 690:

Pro Val Gly Tyr Leu Asp Lys Gln Val Pro Asp Thr Ser Val Gln Glu  
 1 5 10 15

35 Thr Asp Arg Ile Leu Val Glu Lys Arg Cys Trp Asp Ile Ala Leu Gly  
 20 25 30

Pro Leu Lys Gln Ile Pro Met Asn Leu Phe Ile  
 35 40

40

## (2) INFORMATION FOR SEQ ID NO: 691:

## 45 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 214 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 691:

50 Ala His Ala Ser Glu Ser Gly Glu Arg Trp Trp Ala Cys Cys Gly Val  
 1 5 10 15

55 Arg Phe Gly Leu Arg Ser Ile Glu Ala Ile Gly Arg Ser Cys Cys His  
 20 25 30

Asp Gly Pro Gly Gly Leu Val Ala Asn Arg Gly Arg Arg Phe Lys Trp  
 35 40 45

60 Ala Ile Glu Leu Ser Gly Pro Gly Gly Gly Ser Arg Gly Arg Ser Asp

696

[illegible]

35 (2) INFORMATION FOR SEQ ID NO: 692:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 46 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 692:

Ala Thr Phe Lys Met Leu Glu Ser Ser Ser Gln Lys Phe Leu Gln Gly  
1 5 10 15

Leu Val Tyr Leu Ile Gly Asn Leu Met Gly Leu Ala Leu Ala Val Tyr  
20 25 30

Lys Cys Gln Ser Met Gly Leu Leu Pro Thr His Ala Ser Asp  
35 40 45

(2) INFORMATION FOR SEQ ID NO: 693:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 43 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 693:



697

Pro Val Gly Tyr Leu Asp Lys Gln Val Pro Asp Thr Ser Val Gln Glu  
1 5 10 15

5 Thr Asp Arg Ile Leu Val Glu Lys Arg Cys Trp Asp Ile Ala Leu Gly  
20 25 30

Pro Leu Lys Gln Ile Pro Met Asn Leu Phe Ile  
35 40

10

(2) INFORMATION FOR SEQ ID NO: 694:

15

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 48 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 694:

20

Pro Thr Thr Lys Leu Asp Ile Met Glu Lys Lys Lys His Ile Gln Ile  
1 5 10 15

25

Arg Phe Pro Ser Phe Tyr His Lys Leu Val Asp Ser Gly Arg Met Arg  
20 25 30

Ser Lys Arg Glu Thr Arg Arg Glu Asp Ser Asp Thr Lys His Asn Leu  
35 40 45

30

35

(2) INFORMATION FOR SEQ ID NO: 695:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 167 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

40

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 695:

Thr Glu His Ile Ile Ala Val Met Ile Thr Glu Leu Arg Gly Lys Asp  
1 5 10 15

45

Ile Leu Ser Tyr Leu Glu Lys Asn Ile Ser Val Gln Met Thr Ile Ala  
20 25 30

Val Gly Thr Arg Met Pro Pro Lys Asn Phe Ser Arg Gly Ser Leu Val  
35 40 45

50

Phe Val Ser Ile Ser Phe Ile Val Leu Met Ile Ile Ser Ser Ala Trp  
50 55 60

55

Leu Ile Phe Tyr Phe Ile Gln Lys Ile Arg Tyr Thr Asn Ala Arg Asp  
65 70 75 80

Arg Asn Gln Arg Arg Leu Gly Asp Ala Ala Lys Lys Ala Ile Ser Lys  
85 90 95

60

698

Leu Thr Thr Arg Thr Val Lys Lys Gly Asp Lys Glu Thr Asp Pro Asp  
 100 105 110  
 5 Phe Asp His Cys Ala Val Cys Ile Glu Ser Tyr Lys Gln Asn Asp Val  
 115 120 125  
 Val Arg Ile Leu Pro Cys Lys His Val Phe His Lys Ser Cys Val Asp  
 130 135 140  
 10 Pro Trp Leu Ser Glu His Cys Thr Cys Pro Met Cys Lys Leu Asn Ile  
 145 150 155 160  
 Leu Lys Ala Leu Gly Ile Val  
 165  
 15

(2) INFORMATION FOR SEQ ID NO: 696:

20 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 276 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 696:

25 Met Thr His Pro Gly Thr Glu His Ile Ile Ala Val Met Ile Thr Glu  
 1 5 10 15  
 30 Leu Arg Gly Lys Asp Ile Leu Ser Tyr Leu Glu Lys Asn Ile Ser Val  
 20 25 30  
 Gln Met Thr Ile Ala Val Gly Thr Arg Met Pro Pro Lys Asn Phe Ser  
 35 35 40 45  
 35 Arg Gly Ser Leu Val Phe Val Ser Ile Ser Phe Ile Val Leu Met Ile  
 50 55 60  
 Ile Ser Ser Ala Trp Leu Ile Phe Tyr Phe Ile Gln Lys Ile Arg Tyr  
 40 65 70 75 80  
 Thr Asn Ala Arg Asp Arg Asn Gln Arg Arg Leu Gly Asp Ala Ala Lys  
 85 90 95  
 45 Lys Ala Ile Ser Lys Leu Thr Thr Arg Thr Val Lys Lys Gly Asp Lys  
 100 105 110  
 Glu Thr Asp Pro Asp Phe Asp His Cys Ala Val Cys Ile Glu Ser Tyr  
 115 120 125  
 50 Lys Gln Asn Asp Val Val Arg Ile Leu Pro Cys Lys His Val Phe His  
 130 135 140  
 Lys Ser Cys Val Asp Pro Trp Leu Ser Glu His Cys Thr Cys Pro Met  
 55 145 150 155 160  
 Cys Lys Leu Asn Ile Leu Lys Ala Leu Gly Ile Val Pro Asn Leu Pro  
 165 170 175  
 60 Cys Thr Asp Asn Val Ala Phe Asp Met Glu Arg Leu Thr Arg Thr Gln  
 180 185 190

699

Ala Val Asn Arg Arg Ser Ala Leu Gly Asp Leu Ala Gly Asp Asn Ser  
 195 200 205

5 Leu Gly Leu Glu Pro Leu Arg Thr Ser Gly Ile Ser Pro Leu Pro Gln  
 210 215 220

Asp Gly Glu Leu Thr Pro Arg Thr Gly Glu Ile Asn Ile Ala Val Thr  
 225 230 235 240

10 Lys Glu Trp Phe Ile Ile Ala Ser Phe Gly Leu Leu Ser Ala Leu Thr  
 245 250 255

15 Leu Cys Tyr Met Ile Ile Arg Ala Thr Ala Ser Leu Asn Ala Asn Glu  
 260 265 270

Val Glu Trp Phe  
 275

20

(2) INFORMATION FOR SEQ ID NO: 697:

25 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 69 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 697:

30 Thr Glu His Ile Ile Ala Val Met Ile Thr Glu Leu Arg Gly Lys Asp  
 1 5 10 15

Ile Leu Ser Tyr Leu Glu Lys Asn Ile Ser Val Gln Met Thr Ile Ala  
 20 25 30

35 Val Gly Thr Arg Met Pro Pro Lys Asn Phe Ser Arg Gly Ser Leu Val  
 35 40 45

40 Phe Val Ser Ile Ser Phe Ile Val Leu Met Ile Ile Ser Ser Ala Trp  
 50 55 60

Leu Ile Phe Tyr Phe  
 65

45

(2) INFORMATION FOR SEQ ID NO: 698:

50 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 58 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 698:

55 Ser Ile Ser Phe Ile Val Leu Met Ile Ile Ser Ser Ala Trp Leu Ile  
 1 5 10 15

Phe Tyr Phe Ile Gln Lys Ile Arg Tyr Thr Asn Ala Arg Asp Arg Asn  
 20 25 30

60

700

Gln Arg Arg Leu Gly Asp Ala Ala Lys Lys Ala Ile Ser Lys Leu Thr  
 35 40 45

5 Thr Arg Thr Val Lys Lys Gly Asp Lys Glu  
 50 55

10 (2) INFORMATION FOR SEQ ID NO: 699:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 66 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

15 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 699:

Val Lys Lys Gly Asp Lys Glu Thr Asp Pro Asp Phe Asp His Cys Ala  
 1 5 10 15

20 Val Cys Ile Glu Ser Tyr Lys Gln Asn Asp Val Val Arg Ile Leu Pro  
 20 25 30

Cys Lys His Val Phe His Lys Ser Cys Val Asp Pro Trp Leu Ser Glu  
 35 40 45

25 His Cys Thr Cys Pro Met Cys Lys Leu Asn Ile Leu Lys Ala Leu Gly  
 50 55 60

30 Ile Val  
 65

35 (2) INFORMATION FOR SEQ ID NO: 700:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 106 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

40 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 700:

Met Thr His Pro Gly Thr Glu His Ile Ile Ala Val Met Ile Thr Glu  
 1 5 10 15

45 Leu Arg Gly Lys Asp Ile Leu Ser Tyr Leu Glu Lys Asn Ile Ser Val  
 20 25 30

Gln Met Thr Ile Ala Val Gly Thr Arg Met Pro Pro Lys Asn Phe Ser  
 35 40 45

50 Arg Gly Ser Leu Val Phe Val Ser Ile Ser Phe Ile Val Leu Met Ile  
 50 55 60

55 Ile Ser Ser Ala Trp Leu Ile Phe Tyr Phe Ile Gln Lys Ile Arg Tyr  
 65 70 75 80

Thr Asn Ala Arg Asp Arg Asn Gln Arg Arg Leu Gly Asp Ala Ala Lys  
 85 90 95

60 Lys Ala Ile Ser Lys Leu Thr Thr Arg Thr

701

100

105

5 (2) INFORMATION FOR SEQ ID NO: 701:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 84 amino acids

(B) TYPE: amino acid

10 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 701:

Ala Ala Lys Lys Ala Ile Ser Lys Leu Thr Thr Arg Thr Val Lys Lys  
 1 5 10 15

15 Gly Asp Lys Glu Thr Asp Pro Asp Phe Asp His Cys Ala Val Cys Ile  
 20 25 30

20 Glu Ser Tyr Lys Gln Asn Asp Val Val Arg Ile Leu Pro Cys Lys His  
 35 40 45

Val Phe His Lys Ser Cys Val Asp Pro Trp Leu Ser Glu His Cys Thr  
 50 55 60

25 Cys Pro Met Cys Lys Leu Asn Ile Leu Lys Ala Leu Gly Ile Val Pro  
 65 70 75 80

Asn Leu Pro Cys

30

(2) INFORMATION FOR SEQ ID NO: 702:

35 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 86 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 702:

40 Thr Gln Ala Val Asn Arg Arg Ser Ala Leu Gly Asp Leu Ala Gly Asp  
 1 5 10 15

45 Asn Ser Leu Gly Leu Glu Pro Leu Arg Thr Ser Gly Ile Ser Pro Leu  
 20 25 30

Pro Gln Asp Gly Glu Leu Thr Pro Arg Thr Gly Glu Ile Asn Ile Ala  
 35 40 45

50 Val Thr Lys Glu Trp Phe Ile Ile Ala Ser Phe Gly Leu Leu Ser Ala  
 50 55 60

Leu Thr Leu Cys Tyr Met Ile Ile Arg Ala Thr Ala Ser Leu Asn Ala  
 65 70 75 80

55

Asn Glu Val Glu Trp Phe  
 85

60

702

## 2) INFORMATION FOR SEQ ID NO: 703:

## (1) SEQUENCE CHARACTERISTICS:

- 5 (A) LENGTH: 341 amino acids  
 (B) TYPE: amino acid  
 (C) TOPOLOGY: linear

## (2) SEQUENCE DESCRIPTION: SEQ ID NO: 703:

10 Pro Leu His Gly Val Ala Asp His Leu Gly Cys Asp Pro Gln Thr Arg  
 1 5 10 15

Phe Phe Val Pro Pro Asn Ile Lys Gln Trp Ile Ala Leu Leu Gln Arg  
 20 25 30

15 Gly Asn Cys Thr Phe Lys Glu Lys Ile Ser Arg Ala Ala Phe His Asn  
 35 40 45

Ala Val Ala Val Val Ile Tyr Asn Asn Lys Ser Lys Glu Glu Pro Val  
 50 55 60

20 Thr Met Thr His Pro Gly Thr Glu His Ile Ile Ala Val Met Ile Thr  
 65 70 75 80

25 Glu Leu Arg Gly Lys Asp Ile Leu Ser Tyr Leu Glu Lys Asn Ile Ser  
 85 90 95

Val Gln Met Thr Ile Ala Val Gly Thr Arg Met Pro Pro Lys Asn Phe  
 100 105 110

30 Ser Arg Gly Ser Leu Val Phe Val Ser Ile Ser Phe Ile Val Leu Met  
 115 120 125

Ile Ile Ser Ser Ala Trp Leu Ile Phe Tyr Phe Ile Gln Lys Ile Arg  
 130 135 140

35 Tyr Thr Asn Ala Arg Asp Arg Asn Gln Arg Arg Leu Gly Asp Ala Ala  
 145 150 155 160

40 Lys Lys Ala Ile Ser Lys Leu Thr Thr Arg Thr Val Lys Lys Gly Asp  
 165 170 175

Lys Glu Thr Asp Pro Asp Phe Asp His Cys Ala Val Cys Ile Glu Ser  
 180 185 190

45 Tyr Lys Gln Asn Asp Val Val Arg Ile Leu Pro Cys Lys His Val Phe  
 195 200 205

His Lys Ser Cys Val Asp Pro Trp Leu Ser Glu His Cys Thr Cys Pro  
 210 215 220

50 Met Cys Lys Leu Asn Ile Leu Lys Ala Leu Gly Ile Val Pro Asn Leu  
 225 230 235 240

Pro Cys Thr Asp Asn Val Ala Phe Asp Met Glu Arg Leu Thr Arg Thr  
 245 250 255

Gln Ala Val Asn Arg Arg Ser Ala Leu Gly Asp Leu Ala Gly Asp Asn  
 260 265 270

60 Ser Leu Gly Leu Glu Pro Leu Arg Thr Ser Gly Ile Ser Pro Leu Pro

703

275                      280                      285

Gln Asp Gly Glu Leu Thr Pro Arg Thr Gly Glu Ile Asn Ile Ala Val  
 290                      295                      300

5 Thr Lys Glu Trp Phe Ile Ile Ala Ser Phe Gly Leu Leu Ser Ala Leu  
 305                      310                      315                      320

10 Thr Leu Cys Tyr Met Ile Ile Arg Ala Thr Ala Ser Leu Asn Ala Asn  
 325                      330                      335

Glu Val Glu Trp Phe  
 340

15

(2) INFORMATION FOR SEQ ID NO: 704:

20 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 60 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 704:

25 His Gly Val Ala Asp His Leu Gly Cys Asp Pro Gln Thr Arg Phe Phe  
 1                      5                      10                      15

Val Pro Pro Asn Ile Lys Gln Trp Ile Ala Leu Leu Gln Arg Gly Asn  
 20                      25                      30

30 Cys Thr Phe Lys Glu Lys Ile Ser Arg Ala Ala Phe His Asn Ala Val  
 35                      40                      45

35 Ala Val Val Ile Tyr Asn Asn Lys Ser Lys Glu Glu  
 50                      55                      60

40 (2) INFORMATION FOR SEQ ID NO: 705:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 314 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 705:

Met Ser Gly Gln Gly Leu Ala Gly Phe Phe Ala Ser Val Ala Met Ile  
 1                      5                      10                      15

50 Cys Ala Ile Ala Ser Gly Ser Glu Leu Ser Glu Ser Ala Phe Gly Tyr  
 20                      25                      30

Phe Ile Thr Ala Cys Ala Val Ile Ile Leu Thr Ile Ile Cys Tyr Leu  
 35                      40                      45

55 Gly Leu Pro Arg Leu Glu Phe Tyr Arg Tyr Tyr Gln Gln Leu Lys Leu  
 50                      55                      60

60 Glu Gly Pro Gly Glu Gln Glu Thr Lys Leu Asp Leu Ile Ser Lys Gly  
 65                      70                      75                      80

704

Glu Glu Pro Arg Ala Gly Lys Glu Glu Ser Gly Val Ser Val Ser Asn  
                                     85                                    90                                    95  
 5 Ser Gln Pro Thr Asn Glu Ser His Ser Ile Lys Ala Ile Leu Lys Asn  
                                     100                                    105                                    110  
 Ile Ser Val Leu Ala Phe Ser Val Cys Phe Ile Phe Thr Ile Thr Ile  
                                     115                                    120                                    125  
 10 Gly Met Phe Pro Ala Val Thr Val Glu Val Lys Ser Ser Ile Ala Gly  
                                     130                                    135                                    140  
 Ser Ser Thr Trp Glu Arg Tyr Phe Ile Pro Val Ser Cys Phe Leu Thr  
 15 145                                    150                                    155                                    160  
 Phe Asn Ile Phe Asp Trp Leu Gly Arg Ser Leu Thr Ala Val Phe Met  
                                     165                                    170                                    175  
 20 Trp Pro Gly Lys Asp Ser Arg Trp Leu Pro Ser Trp Xaa Leu Ala Arg  
                                     180                                    185                                    190  
 Leu Val Phe Val Pro Leu Leu Leu Leu Cys Asn Ile Lys Pro Arg Arg  
                                     195                                    200                                    205  
 25 Tyr Leu Thr Val Val Phe Glu His Asp Ala Trp Phe Ile Phe Phe Met  
                                     210                                    215                                    220  
 Ala Ala Phe Ala Phe Ser Asn Gly Tyr Leu Ala Ser Leu Cys Met Cys  
 30 225                                    230                                    235                                    240  
 Phe Gly Pro Lys Lys Val Lys Pro Ala Glu Ala Glu Thr Ala Glu Pro  
                                     245                                    250                                    255  
 35 Ser Trp Pro Ser Ser Cys Val Trp Val Trp His Trp Gly Leu Phe Ser  
                                     260                                    265                                    270  
 Pro Ser Cys Ser Gly Gln Leu Cys Asp Lys Gly Trp Thr Glu Gly Leu  
                                     275                                    280                                    285  
 40 Pro Ala Ser Leu Pro Val Cys Leu Leu Pro Leu Pro Ser Ala Arg Gly  
                                     290                                    295                                    300  
 Asp Pro Glu Trp Ser Gly Gly Phe Phe Phe  
 45 305                                    310

(2) INFORMATION FOR SEQ ID NO: 706:

50

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 106 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

55

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 706:

Met Ser Gly Gln Gly Leu Ala Gly Phe Phe Ala Ser Val Ala Met Ile  
   1                                    5                                    10                                    15

60

Cys Ala Ile Ala Ser Gly Ser Glu Leu Ser Glu Ser Ala Phe Gly Tyr



705

20                      25                      30  
 Phe Ile Thr Ala Cys Ala Val Ile Ile Leu Thr Ile Ile Cys Tyr Leu  
                     35                      40                      45  
 5  
 Gly Leu Pro Arg Leu Glu Phe Tyr Arg Tyr Tyr Gln Gln Leu Lys Leu  
                     50                      55                      60  
 10  
 Glu Gly Pro Gly Glu Gln Glu Thr Lys Leu Asp Leu Ile Ser Lys Gly  
                     65                      70                      75                      80  
 Glu Glu Pro Arg Ala Gly Lys Glu Glu Ser Gly Val Ser Val Ser Asn  
                     85                      90                      95  
 15  
 Ser Gln Pro Thr Asn Glu Ser His Ser Ile  
                     100                      105

20 (2) INFORMATION FOR SEQ ID NO: 707:

(i) SEQUENCE CHARACTERISTICS:  
       (A) LENGTH: 81 amino acids  
       (B) TYPE: amino acid  
 25       (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 707:

Ser Gly Val Ser Val Ser Asn Ser Gln Pro Thr Asn Glu Ser His Ser  
   1                      5                      10                      15  
 30  
 Ile Lys Ala Ile Leu Lys Asn Ile Ser Val Leu Ala Phe Ser Val Cys  
                     20                      25                      30  
 35  
 Phe Ile Phe Thr Ile Thr Ile Gly Met Phe Pro Ala Val Thr Val Glu  
                     35                      40                      45  
 Val Lys Ser Ser Ile Ala Gly Ser Ser Thr Trp Glu Arg Tyr Phe Ile  
                     50                      55                      60  
 40  
 Pro Val Ser Cys Phe Leu Thr Phe Asn Ile Phe Asp Trp Leu Gly Arg  
                     65                      70                      75                      80  
 Ser

45

(2) INFORMATION FOR SEQ ID NO: 708:

50       (i) SEQUENCE CHARACTERISTICS:  
       (A) LENGTH: 92 amino acids  
       (B) TYPE: amino acid  
       (D) TOPOLOGY: linear  
 55       (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 708:

Thr Ile Gly Met Phe Pro Ala Val Thr Val Glu Val Lys Ser Ser Ile  
   1                      5                      10                      15  
 60  
 Ala Gly Ser Ser Thr Trp Glu Arg Tyr Phe Ile Pro Val Ser Cys Phe  
                     20                      25                      30

706

Leu Thr Phe Asn Ile Phe Asp Trp Leu Gly Arg Ser Leu Thr Ala Val  
 35 40 45

5 Phe Met Trp Pro Gly Lys Asp Ser Arg Trp Leu Pro Ser Trp Xaa Leu  
 50 55 60

Ala Arg Leu Val Phe Val Pro Leu Leu Leu Leu Cys Asn Ile Lys Pro  
 65 70 75 80

10 Arg Arg Tyr Leu Thr Val Val Phe Glu His Asp Ala  
 85 90

15

(2) INFORMATION FOR SEQ ID NO: 709:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 74 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

20

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 709:

25 Phe Gly Pro Lys Lys Val Lys Pro Ala Glu Ala Glu Thr Ala Glu Pro  
 1 5 10 15

Ser Trp Pro Ser Ser Cys Val Trp Val Trp His Trp Gly Leu Phe Ser  
 20 25 30

30 Pro Ser Cys Ser Gly Gln Leu Cys Asp Lys Gly Trp Thr Glu Gly Leu  
 35 40 45

Pro Ala Ser Leu Pro Val Cys Leu Leu Pro Leu Pro Ser Ala Arg Gly  
 50 55 60

35

Asp Pro Glu Trp Ser Gly Gly Phe Phe Phe  
 65 70

40

(2) INFORMATION FOR SEQ ID NO: 710:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 135 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

45

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 710:

50 Asp Asp Asp Gly Phe Glu Ile Val Pro Ile Glu Asp Pro Ala Lys His  
 1 5 10 15

Arg Ile Leu Asp Pro Glu Gly Leu Ala Leu Gly Ala Val Ile Ala Ser  
 20 25 30

55 Ser Lys Lys Ala Lys Arg Asp Leu Ile Asp Asn Ser Phe Asn Arg Tyr  
 35 40 45

Thr Phe Asn Glu Asp Glu Gly Glu Leu Pro Glu Trp Phe Val Gln Glu  
 50 55 60

60

707

Glu Lys Gln His Arg Ile Arg Gln Leu Pro Val Gly Lys Lys Glu Val  
 65 70 75 80  
 5 Glu His Tyr Arg Lys Arg Trp Arg Glu Ile Asn Ala Arg Pro Ile Xaa  
 85 90 95  
 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 100 105 110  
 10 Leu Glu Gln Thr Arg Lys Lys Ala Glu Ala Val Val Asn Thr Val Asp  
 115 120 125  
 Ile Xaa Arg Thr Arg Glu Ser  
 130 135  
 15

(2) INFORMATION FOR SEQ ID NO: 711:

20 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 50 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 711:  
 25

Asp Asp Asp Gly Phe Glu Ile Val Pro Ile Glu Asp Pro Ala Lys His  
 1 5 10 15  
 30 Arg Ile Leu Asp Pro Glu Gly Leu Ala Leu Gly Ala Val Ile Ala Ser  
 20 25 30  
 Ser Lys Lys Ala Lys Arg Asp Leu Ile Asp Asn Ser Phe Asn Arg Tyr  
 35 40 45  
 35 Thr Phe  
 50

(2) INFORMATION FOR SEQ ID NO: 712:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 51 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 45 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 712:

Lys Arg Trp Arg Glu Ile Asn Ala Arg Pro Ile Xaa Xaa Xaa Xaa Xaa  
 1 5 10 15  
 50 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa  
 20 25 30  
 Arg Lys Lys Ala Glu Ala Val Val Asn Thr Val Asp Ile Xaa Arg Thr  
 35 40 45  
 55 Arg Glu Ser  
 50

60

## (2) INFORMATION FOR SEQ ID NO: 713:

## (i) SEQUENCE CHARACTERISTICS:

- 5 (A) LENGTH: 216 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 713:

10 Met Ile Lys Asp Lys Gly Arg Ala Arg Thr Ala Leu Thr Ser Ser Gln  
       1                  5                  10                  15  
       Pro Ala His Leu Cys Pro Glu Asn Pro Leu Leu His Leu Lys Ala Ala  
                   20                  25                  30  
 15 Val Lys Glu Lys Lys Arg Asn Lys Lys Lys Lys Thr Ile Gly Ser Pro  
                   35                  40                  45  
       Lys Arg Ile Gln Ser Pro Leu Asn Asn Lys Leu Leu Asn Ser Pro Ala  
 20                  50                  55                  60  
       Lys Thr Leu Pro Gly Ala Cys Gly Ser Pro Gln Lys Leu Ile Asp Gly  
                   65                  70                  75                  80  
 25 Phe Leu Lys His Glu Gly Pro Pro Ala Glu Lys Pro Leu Glu Glu Leu  
                   85                  90                  95  
       Ser Ala Ser Thr Ser Gly Val Pro Gly Leu Ser Ser Leu Gln Ser Asp  
                   100                  105                  110  
 30 Pro Ala Gly Cys Val Arg Pro Pro Ala Pro Asn Leu Ala Gly Ala Val  
                   115                  120                  125  
       Glu Phe Asn Asp Val Lys Thr Leu Leu Arg Glu Trp Ile Thr Thr Ile  
 35                  130                  135                  140  
       Ser Asp Pro Met Glu Glu Asp Ile Leu Gln Val Val Lys Tyr Cys Thr  
                   145                  150                  155                  160  
 40 Asp Leu Ile Glu Glu Lys Asp Leu Glu Lys Leu Asp Leu Val Ile Lys  
                   165                  170                  175  
       Tyr Met Lys Arg Leu Met Gln Gln Ser Val Glu Ser Val Trp Asn Met  
                   180                  185                  190  
 45 Ala Phe Asp Phe Ile Leu Asp Asn Val Gln Val Val Leu Gln Gln Thr  
                   195                  200                  205  
       Tyr Gly Ser Thr Leu Lys Val Thr  
 50                  210                  215

## (2) INFORMATION FOR SEQ ID NO: 714:

## (i) SEQUENCE CHARACTERISTICS:

- 55 (A) LENGTH: 52 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 714:

60

Met Ile Lys Asp Lys Gly Arg Ala Arg Thr Ala Leu Thr Ser Ser Gln  
 1 5 10 15  
 5 Pro Ala His Leu Cys Pro Glu Asn Pro Leu Leu His Leu Lys Ala Ala  
 20 25 30  
 Val Lys Glu Lys Lys Arg Asn Lys Lys Lys Lys Thr Ile Gly Ser Pro  
 35 40 45  
 10 Lys Arg Ile Gln  
 50

15

(2) INFORMATION FOR SEQ ID NO: 715:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 100 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 715:

25 Lys Arg Ile Gln Ser Pro Leu Asn Asn Lys Leu Leu Asn Ser Pro Ala  
 1 5 10 15  
 Lys Thr Leu Pro Gly Ala Cys Gly Ser Pro Gln Lys Leu Ile Asp Gly  
 20 25 30  
 30 Phe Leu Lys His Glu Gly Pro Pro Ala Glu Lys Pro Leu Glu Glu Leu  
 35 40 45  
 Ser Ala Ser Thr Ser Gly Val Pro Gly Leu Ser Ser Leu Gln Ser Asp  
 50 55 60  
 35 Pro Ala Gly Cys Val Arg Pro Pro Ala Pro Asn Leu Ala Gly Ala Val  
 65 70 75 80  
 40 Glu Phe Asn Asp Val Lys Thr Leu Leu Arg Glu Trp Ile Thr Thr Ile  
 85 90 95  
 Ser Asp Pro Met  
 100

45

(2) INFORMATION FOR SEQ ID NO: 716:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 74 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 716:

55 Thr Ile Ser Asp Pro Met Glu Glu Asp Ile Leu Gln Val Val Lys Tyr  
 1 5 10 15  
 Cys Thr Asp Leu Ile Glu Glu Lys Asp Leu Glu Lys Leu Asp Leu Val  
 20 25 30  
 60

710

Ile Lys Tyr Met Lys Arg Leu Met Gln Gln Ser Val Glu Ser Val Trp  
 35 40 45

5 Asn Met Ala Phe Asp Phe Ile Leu Asp Asn Val Gln Val Val Leu Gln  
 50 55 60

Gln Thr Tyr Gly Ser Thr Leu Lys Val Thr  
 65 70

10

(2) INFORMATION FOR SEQ ID NO: 717:

15 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 18 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 717:

20 Phe Cys His Asp Cys Lys Phe Pro Glu Ala Ser Pro Ala Met Asn Cys  
 1 5 10 15

Glu Pro

25

(2) INFORMATION FOR SEQ ID NO: 718:

30 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 18 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 718:

35 Phe Cys His Asp Cys Lys Phe Pro Glu Ala Ser Pro Ala Met Asn Cys  
 1 5 10 15

Glu Pro

40

(2) INFORMATION FOR SEQ ID NO: 719:

45 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 27 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 719:

Pro Gln Pro Ser Asn Phe Pro Thr Thr Val Arg Asn Leu Pro Tyr Ser  
 1 5 10 15

55 Gly Ala Gly Ala Gln Pro Pro Pro Ser Asn Cys  
 20 25

60 (2) INFORMATION FOR SEQ ID NO: 720:

711

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 134 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 720:

Met Ala Ser Ser Val Pro Ala Gly Gly His Thr Arg Ala Gly Gly Ile  
 1 5 10 15  
 Phe Leu Ile Gly Lys Leu Asp Leu Glu Ala Ser Leu Phe Lys Ser Phe  
 20 25 30  
 Gln Trp Leu Pro Phe Val Leu Arg Lys Lys Cys Asn Phe Phe Cys Trp  
 35 40 45  
 Asp Ser Ser Ala His Ser Leu Pro Leu His Pro Leu Ser Ala Ser Cys  
 50 55 60  
 Ser Ala Pro Ala Cys His Ala Ser Asp Thr His Leu Leu Tyr Pro Ser  
 65 70 75 80  
 Thr Arg Ala Leu Cys Pro Ser Ile Phe Ala Trp Leu Val Ala Pro His  
 85 90 95  
 Ser Val Phe Arg Thr Asn Ala Pro Gly Pro Thr Pro Ser Ser Gln Ser  
 100 105 110  
 Ser Pro Val Phe Pro Val Phe Pro Val Ser Phe Met Ala Leu Ile Val  
 115 120 125  
 Cys Xaa Leu Val Cys Cys  
 130

## (2) INFORMATION FOR SEQ ID NO: 721:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 71 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 721:

Met Ala Ser Ser Val Pro Ala Gly Gly His Thr Arg Ala Gly Gly Ile  
 1 5 10 15  
 Phe Leu Ile Gly Lys Leu Asp Leu Glu Ala Ser Leu Phe Lys Ser Phe  
 20 25 30  
 Gln Trp Leu Pro Phe Val Leu Arg Lys Lys Cys Asn Phe Phe Cys Trp  
 35 40 45  
 Asp Ser Ser Ala His Ser Leu Pro Leu His Pro Leu Ser Ala Ser Cys  
 50 55 60  
 Ser Ala Pro Ala Cys His Ala  
 65 70

## (2) INFORMATION FOR SEQ ID NO: 722:

## (i) SEQUENCE CHARACTERISTICS:

- 5 (A) LENGTH: 46 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 722:

10 Phe Ala Trp Leu Val Ala Pro His Ser Val Phe Arg Thr Asn Ala Pro  
1 5 10 15  
Gly Pro Thr Pro Ser Ser Gln Ser Ser Pro Val Phe Pro Val Phe Pro  
20 25 30  
15 Val Ser Phe Met Ala Leu Ile Val Cys Xaa Leu Val Cys Cys  
35 40 45

20

## (2) INFORMATION FOR SEQ ID NO: 723:

## (i) SEQUENCE CHARACTERISTICS:

- 25 (A) LENGTH: 134 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 723:

30 Met Ala Ser Ser Val Pro Ala Gly Gly His Thr Arg Ala Gly Gly Ile  
1 5 10 15  
Phe Leu Ile Gly Lys Leu Asp Leu Glu Ala Ser Leu Phe Lys Ser Phe  
20 25 30  
35 Gln Trp Leu Pro Phe Val Leu Arg Lys Lys Cys Asn Phe Phe Cys Trp  
35 40 45  
Asp Ser Ser Ala His Ser Leu Pro Leu His Pro Leu Ser Ala Ser Cys  
50 55 60  
40 Ser Ala Pro Ala Cys His Ala Ser Asp Thr His Leu Leu Tyr Pro Ser  
65 70 75 80  
Thr Arg Ala Leu Cys Pro Ser Ile Phe Ala Trp Leu Val Ala Pro His  
85 90 95  
45 Ser Val Phe Arg Thr Asn Ala Pro Gly Pro Thr Pro Ser Ser Gln Ser  
100 105 110  
50 Ser Pro Val Phe Pro Val Phe Pro Val Ser Phe Met Ala Leu Ile Val  
115 120 125  
Cys Xaa Leu Val Cys Cys  
130

55

## (2) INFORMATION FOR SEQ ID NO: 724:

60

## (i) SEQUENCE CHARACTERISTICS:



713

(A) LENGTH: 286 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 724:

5 Met Ala Met Glu Gly Tyr Trp Arg Phe Leu Ala Leu Leu Gly Ser Ala  
 1 5 10 15  
 10 Leu Leu Val Gly Phe Leu Ser Val Ile Phe Ala Leu Val Trp Val Leu  
 20 25 30  
 His Tyr Arg Glu Gly Leu Gly Trp Asp Gly Ser Ala Leu Glu Phe Asn  
 35 40 45  
 15 Trp His Pro Val Leu Met Val Thr Gly Phe Val Phe Ile Gln Gly Ile  
 50 55 60  
 Ala Ile Ile Val Tyr Arg Leu Pro Trp Thr Trp Lys Cys Ser Lys Leu  
 65 70 75 80  
 20 Leu Met Lys Ser Ile His Ala Gly Leu Asn Ala Val Ala Ala Ile Leu  
 85 90 95  
 Ala Ile Ile Ser Val Val Ala Val Phe Glu Asn His Asn Val Asn Asn  
 100 105 110  
 25 Ile Ala Asn Met Tyr Ser Leu His Ser Trp Val Gly Leu Ile Ala Val  
 115 120 125  
 30 Ile Cys Tyr Leu Leu Gln Leu Leu Ser Gly Phe Ser Val Phe Leu Leu  
 130 135 140  
 Pro Trp Ala Pro Leu Ser Leu Arg Ala Phe Leu Met Pro Ile His Val  
 145 150 155 160  
 35 Tyr Ser Gly Ile Val Ile Phe Gly Thr Val Ile Ala Thr Ala Leu Met  
 165 170 175  
 Gly Leu Thr Glu Lys Leu Ile Phe Ser Leu Arg Asp Pro Ala Tyr Ser  
 180 185 190  
 Thr Phe Pro Pro Glu Gly Val Phe Val Asn Thr Leu Gly Leu Leu Ile  
 195 200 205  
 45 Leu Val Phe Gly Ala Leu Ile Phe Trp Ile Val Thr Arg Pro Gln Trp  
 210 215 220  
 Lys Arg Pro Lys Glu Pro Asn Ser Thr Ile Leu His Pro Asn Gly Gly  
 225 230 235 240  
 50 Thr Glu Gln Gly Ala Arg Gly Ser Met Pro Ala Tyr Ser Gly Asn Asn  
 245 250 255  
 Met Asp Lys Ser Asp Ser Glu Leu Asn Ser Glu Val Ala Ala Arg Lys  
 260 265 270  
 55 Arg Asn Leu Ala Leu Asp Glu Ala Gly Gln Arg Ser Thr Met  
 275 280 285  
 60

## (2) INFORMATION FOR SEQ ID NO: 725:

## (i) SEQUENCE CHARACTERISTICS:

- 5 (A) LENGTH: 43 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 725:

10 Pro Gly Arg Ala Gly Pro Ser Pro Gly Leu Ser Leu Gln Leu Pro Ala  
1 5 10 15  
Glu Pro Gly His Pro Ala Gly Asn Leu Ala Pro Leu Thr Ser Arg Pro  
20 25 30  
15 Gln Pro Leu Cys Arg Ile Pro Ala Val Pro Gly  
35 40

## (2) INFORMATION FOR SEQ ID NO: 726:

## (i) SEQUENCE CHARACTERISTICS:

- 25 (A) LENGTH: 424 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 726:

30 Met Lys Leu Leu Gly Glu Cys Ser Ser Ser Ile Asp Ser Val Lys Arg  
1 5 10 15  
Leu Glu His Lys Leu Lys Glu Glu Glu Glu Ser Leu Pro Gly Phe Val  
20 25 30  
35 Asn Leu His Ser Thr Glu Thr Gln Thr Ala Gly Val Ile Asp Arg Trp  
35 40 45  
Glu Leu Leu Gln Ala Gln Ala Leu Ser Lys Glu Leu Arg Met Lys Gln  
50 55 60  
40 Asn Leu Gln Lys Trp Gln Gln Phe Asn Ser Asp Leu Asn Ser Ile Trp  
65 70 75 80  
Ala Trp Leu Gly Asp Thr Glu Glu Glu Leu Glu Gln Leu Gln Arg Leu  
45 85 90 95  
Glu Leu Ser Thr Asp Ile Gln Thr Ile Glu Leu Gln Ile Lys Lys Leu  
100 105 110  
50 Lys Glu Leu Gln Lys Ala Val Asp His Arg Lys Ala Ile Ile Leu Ser  
115 120 125  
Ile Asn Leu Cys Ser Pro Glu Phe Thr Gln Ala Asp Ser Lys Glu Ser  
130 135 140  
55 Arg Asp Leu Gln Asp Arg Leu Xaa Gln Met Asn Gly Arg Trp Asp Arg  
145 150 155 160  
Val Cys Ser Leu Leu Glu Glu Trp Arg Gly Leu Leu Gln Asp Ala Leu  
60 165 170 175

715

Met Gln Cys Gln Gly Phe His Glu Met Ser His Gly Leu Leu Leu Met  
180 185 190

5 Leu Glu Asn Ile Asp Arg Arg Lys Asn Glu Ile Val Pro Ile Asp Ser  
195 200 205

Asn Leu Asp Ala Glu Ile Leu Gln Asp His His Lys Gln Leu Met Gln  
210 215 220

10 Ile Lys His Glu Leu Leu Glu Ser Gln Leu Arg Val Ala Ser Leu Gln  
225 230 235 240

Asp Met Ser Cys Gln Leu Leu Val Asn Ala Glu Gly Thr Asp Cys Leu  
15 245 250 255

Glu Ala Lys Glu Lys Val His Val Ile Gly Asn Arg Leu Lys Leu Leu  
260 265 270

20 Leu Lys Glu Val Ser Arg His Ile Lys Glu Leu Glu Lys Leu Leu Asp  
275 280 285

Val Ser Ser Ser Gln Gln Asp Leu Ser Ser Trp Ser Ser Ala Asp Glu  
25 290 295 300

Leu Asp Thr Ser Gly Ser Val Ser Pro Xaa Ser Gly Arg Ser Thr Pro  
305 310 315 320

Asn Arg Gln Lys Thr Pro Arg Gly Lys Cys Ser Leu Ser Gln Pro Gly  
30 325 330 335

Pro Ser Val Ser Ser Pro His Ser Arg Ser Thr Lys Gly Gly Ser Asp  
340 345 350

35 Ser Ser Leu Ser Glu Pro Xaa Pro Gly Arg Ser Gly Arg Gly Phe Leu  
355 360 365

Phe Arg Val Leu Arg Ala Ala Leu Pro Leu Gln Leu Leu Leu Leu  
40 370 375 380

Leu Ile Gly Leu Ala Cys Leu Val Pro Met Ser Glu Glu Asp Tyr Ser  
385 390 395 400

Cys Ala Leu Ser Asn Asn Phe Ala Arg Ser Phe His Pro Met Leu Arg  
45 405 410 415

Tyr Thr Asn Gly Pro Pro Pro Leu  
420

50

(2) INFORMATION FOR SEQ ID NO: 727:

55 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 110 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 727:

60 Met Lys Leu Leu Gly Glu Cys Ser Ser Ser Ile Asp Ser Val Lys Arg

716

1                    5                    10                    15  
 Leu Glu His Lys Leu Lys Glu Glu Glu Glu Ser Leu Pro Gly Phe Val  
                   20                    25                    30  
 5 Asn Leu His Ser Thr Glu Thr Gln Thr Ala Gly Val Ile Asp Arg Trp  
                   35                    40                    45  
 10 Glu Leu Leu Gln Ala Gln Ala Leu Ser Lys Glu Leu Arg Met Lys Gln  
                   50                    55                    60  
 Asn Leu Gln Lys Trp Gln Gln Phe Asn Ser Asp Leu Asn Ser Ile Trp  
                   65                    70                    75                    80  
 15 Ala Trp Leu Gly Asp Thr Glu Glu Glu Leu Glu Gln Leu Gln Arg Leu  
                   85                    90                    95  
 Glu Leu Ser Thr Asp Ile Gln Thr Ile Glu Leu Gln Ile Lys  
                   100                    105                    110  
 20

(2) INFORMATION FOR SEQ ID NO: 728:

25 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 136 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 728:  
 30 Lys Leu Lys Glu Leu Gln Lys Ala Val Asp His Arg Lys Ala Ile Ile  
                   1                    5                    10                    15  
 35 Leu Ser Ile Asn Leu Cys Ser Pro Glu Phe Thr Gln Ala Asp Ser Lys  
                   20                    25                    30  
 Glu Ser Arg Asp Leu Gln Asp Arg Leu Xaa Gln Met Asn Gly Arg Trp  
                   35                    40                    45  
 40 Asp Arg Val Cys Ser Leu Leu Glu Glu Trp Arg Gly Leu Leu Gln Asp  
                   50                    55                    60  
 Ala Leu Met Gln Cys Gln Gly Phe His Glu Met Ser His Gly Leu Leu  
                   65                    70                    75                    80  
 45 Leu Met Leu Glu Asn Ile Asp Arg Arg Lys Asn Glu Ile Val Pro Ile  
                   85                    90                    95  
 50 Asp Ser Asn Leu Asp Ala Glu Ile Leu Gln Asp His His Lys Gln Leu  
                   100                    105                    110  
 Met Gln Ile Lys His Glu Leu Leu Glu Ser Gln Leu Arg Val Ala Ser  
                   115                    120                    125  
 55 Leu Gln Asp Met Ser Cys Gln Leu  
                   130                    135

60 (2) INFORMATION FOR SEQ ID NO: 729:

717

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 105 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 729:

Gln Asp Met Ser Cys Gln Leu Leu Val Asn Ala Glu Gly Thr Asp Cys  
 1 5 10 15

Leu Glu Ala Lys Glu Lys Val His Val Ile Gly Asn Arg Leu Lys Leu  
 20 25 30

Leu Leu Lys Glu Val Ser Arg His Ile Lys Glu Leu Glu Lys Leu Leu  
 35 40 45

Asp Val Ser Ser Ser Gln Gln Asp Leu Ser Ser Trp Ser Ser Ala Asp  
 50 55 60

Glu Leu Asp Thr Ser Gly Ser Val Ser Pro Xaa Ser Gly Arg Ser Thr  
 65 70 75 80

Pro Asn Arg Gln Lys Thr Pro Arg Gly Lys Cys Ser Leu Ser Gln Pro  
 85 90 95

Gly Pro Ser Val Ser Ser Pro His Ser  
 100 105

## (2) INFORMATION FOR SEQ ID NO: 730:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 73 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 730:

Asp Ser Ser Leu Ser Glu Pro Xaa Pro Gly Arg Ser Gly Arg Gly Phe  
 1 5 10 15

Leu Phe Arg Val Leu Arg Ala Ala Leu Pro Leu Gln Leu Leu Leu  
 20 25 30

Leu Leu Ile Gly Leu Ala Cys Leu Val Pro Met Ser Glu Glu Asp Tyr  
 35 40 45

Ser Cys Ala Leu Ser Asn Asn Phe Ala Arg Ser Phe His Pro Met Leu  
 50 55 60

Arg Tyr Thr Asn Gly Pro Pro Pro Leu  
 65 70

## (2) INFORMATION FOR SEQ ID NO: 731:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 56 amino acids

(B) TYPE: amino acid

718

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 731:

5 Met Lys Leu Leu Ile Cys Gly Asn Tyr Leu Ala Pro Ser His Ser Glu  
 1 5 10 15  
 Ser Ser Arg Arg Cys Cys Leu Leu Cys Phe Tyr Pro Leu Cys Leu Glu  
 20 25 30  
 10 Ile Asn Phe Gly Met Lys Val Phe Leu Ser Met Pro Phe Leu Val Leu  
 35 40 45  
 Phe Gln Ser Leu Ile Gln Glu Asp  
 50 55  
 15

(2) INFORMATION FOR SEQ ID NO: 732:

20 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 271 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 732:

Arg Ile Leu Leu Val Lys Tyr Ser Ala Asn Glu Glu Asn Lys Tyr Asp  
 1 5 10 15  
 Tyr Leu Pro Thr Thr Val Asn Val Cys Ser Glu Leu Val Lys Leu Val  
 20 25 30  
 Phe Cys Val Leu Val Ser Phe Cys Val Ile Lys Lys Asp His Gln Ser  
 35 40 45  
 35 Arg Asn Leu Lys Tyr Ala Ser Trp Lys Glu Phe Ser Asp Phe Met Lys  
 50 55 60  
 Trp Ser Ile Pro Ala Phe Leu Tyr Phe Leu Asp Asn Leu Ile Val Phe  
 65 70 75 80  
 40 Tyr Val Leu Ser Tyr Leu Gln Pro Ala Met Ala Val Ile Phe Ser Asn  
 85 90 95  
 Phe Ser Ile Ile Thr Thr Ala Leu Leu Phe Arg Ile Val Leu Lys Xaa  
 100 105 110  
 Arg Leu Asn Trp Ile Gln Trp Ala Ser Leu Leu Thr Leu Phe Leu Ser  
 115 120 125  
 50 Ile Val Ala Leu Thr Ala Gly Thr Lys Thr Leu Gln His Asn Leu Ala  
 130 135 140  
 Gly Arg Gly Phe His His Asp Ala Phe Phe Ser Pro Ser Asn Ser Cys  
 145 150 155 160  
 55 Leu Leu Phe Arg Asn Glu Cys Pro Arg Lys Asp Asn Cys Thr Ala Lys  
 165 170 175  
 60 Glu Trp Thr Phe Pro Glu Ala Lys Trp Asn Thr Thr Ala Arg Val Phe  
 180 185 190

719

Ser His Ile Arg Leu Gly Met Gly His Val Leu Ile Ile Val Gln Cys  
 195 200 205

5 Phe Ile Ser Ser Met Ala Asn Ile Tyr Asn Glu Lys Ile Leu Lys Glu  
 210 215 220

Gly Asn Gln Leu Thr Glu Xaa Ile Phe Ile Gln Asn Ser Lys Leu Tyr  
 225 230 235 240

10 Phe Phe Gly Ile Leu Phe Asn Gly Leu Thr Leu Gly Leu Gln Arg Ser  
 245 250 255

15 Asn Arg Asp Gln Ile Lys Asn Cys Gly Phe Phe Tyr Gly His Ser  
 260 265 270

20 (2) INFORMATION FOR SEQ ID NO: 733:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 94 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 733:

Asn Ser Val Pro Asn Leu Gln Thr Leu Ala Val Leu Thr Glu Ala Ile  
 1 5 10 15

30 Gly Pro Glu Pro Ala Ile Pro Arg Xaa Pro Arg Glu Pro Pro Val Ala  
 20 25 30

Thr Ser Thr Pro Ala Thr Pro Ser Ala Gly Pro Gln Pro Leu Pro Thr  
 35 40 45

Gly Thr Val Leu Val Pro Gly Gly Pro Ala Pro Pro Cys Leu Gly Glu  
 50 55 60

40 Ala Trp Ala Leu Leu Leu Pro Pro Cys Arg Pro Ser Leu Thr Ser Cys  
 65 70 75 80

Phe Trp Ser Pro Arg Pro Ser Pro Trp Lys Glu Thr Gly Val  
 85 90

45

(2) INFORMATION FOR SEQ ID NO: 734:

50 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 40 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 734:

55 Ala Leu Gln Leu Ala Phe Tyr Pro Asp Ala Val Glu Glu Trp Leu Glu  
 1 5 10 15

Glu Asn Val His Pro Ser Leu Gln Arg Leu Gln Xaa Leu Leu Gln Asp  
 20 25 30

60

720

Leu Ser Glu Val Ser Ala Pro Pro  
 35 40

5

(2) INFORMATION FOR SEQ ID NO: 735:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 30 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

10

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 735:

Cys His Pro Pro Ala Leu Ala Gly Thr Leu Leu Arg Thr Pro Glu Gly  
 15 1 5 10 15

Arg Ala His Ala Arg Gly Leu Leu Leu Glu Ala Gly Gly Ala  
 20 25 30

20

(2) INFORMATION FOR SEQ ID NO: 736:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 59 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 736:

Gly Ser Ser Ser Thr Arg Ser Trp Phe Ser Thr Ser Ser Pro Gln Arg  
 30 1 5 10 15

Ser Ala Ser Trp His Ser Gly Ala Pro Ser Cys Arg Ser Trp Arg Leu  
 20 25 30

35

Pro Cys Ser Trp Leu Ser Thr Arg Met Pro Trp Arg Ser Gly Trp Arg  
 35 40 45

Lys Thr Cys Thr Pro Ala Cys Ser Gly Cys Lys  
 40 50 55

40

(2) INFORMATION FOR SEQ ID NO: 737:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 247 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

45

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 737:

Met Arg Pro Asp Trp Lys Ala Gly Ala Gly Pro Gly Gly Pro Pro Gln  
 1 5 10 15

55

Lys Pro Ala Pro Ser Ser Gln Arg Lys Pro Pro Ala Arg Pro Ser Ala  
 20 25 30

Ala Ala Ala Ala Ile Ala Val Ala Ala Ala Glu Glu Glu Arg Arg Leu  
 35 40 45

60



721

Arg Gln Arg Asn Arg Leu Arg Leu Glu Glu Asp Lys Pro Ala Val Glu  
 50 55 60  
 5 Arg Cys Leu Glu Glu Leu Val Phe Gly Asp Val Glu Asn Asp Glu Asp  
 65 70 75 80  
 Ala Leu Leu Arg Arg Leu Arg Gly Pro Arg Val Gln Glu His Glu Asp  
 85 90 95  
 10 Ser Gly Asp Ser Glu Val Glu Asn Glu Ala Lys Gly Asn Phe Pro Pro  
 100 105 110  
 Gln Lys Lys Pro Val Trp Val Asp Glu Glu Asp Glu Asp Glu Glu Met  
 115 120 125  
 15 Val Asp Met Met Asn Asn Arg Phe Arg Lys Asp Met Met Lys Asn Ala  
 130 135 140  
 Ser Glu Ser Lys Leu Ser Lys Asp Asn Leu Lys Lys Arg Leu Lys Glu  
 145 150 155 160  
 Glu Phe Gln His Ala Met Gly Gly Val Pro Ala Trp Ala Glu Thr Thr  
 165 170 175  
 25 Lys Arg Lys Thr Ser Ser Asp Asp Glu Ser Glu Glu Asp Glu Asp Asp  
 180 185 190  
 Leu Leu Gln Arg Thr Gly Asn Phe Ile Ser Thr Ser Thr Ser Leu Pro  
 195 200 205  
 30 Arg Gly Ile Leu Lys Met Lys Asn Cys Gln His Ala Asn Ala Glu Arg  
 210 215 220  
 Pro Thr Val Ala Arg Ile Ser Ile Cys Ala Val Pro Ser Arg Cys Thr  
 225 230 235 240  
 Asp Cys Asp Gly Cys Trp Asp  
 245

40

(2) INFORMATION FOR SEQ ID NO: 738:

- 45 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 180 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 738:

50 Cys Leu Glu Glu Leu Val Phe Gly Asp Val Glu Asn Asp Glu Asp Ala  
 1 5 10 15  
 Leu Leu Arg Arg Leu Arg Gly Pro Arg Val Gln Glu His Glu Asp Ser  
 20 25 30  
 55 Gly Asp Ser Glu Val Glu Asn Glu Ala Lys Gly Asn Phe Pro Pro Gln  
 35 40 45  
 60 Lys Lys Pro Val Trp Val Asp Glu Glu Asp Glu Asp Glu Glu Met Val  
 50 55 60

722

Asp Met Met Asn Asn Arg Phe Arg Lys Asp Met Met Lys Asn Ala Ser  
 65 70 75 80  
 5 Glu Ser Lys Leu Ser Lys Asp Asn Leu Lys Lys Arg Leu Lys Glu Glu  
 85 90 95  
 Phe Gln His Ala Met Gly Gly Val Pro Ala Trp Ala Glu Thr Thr Lys  
 100 105 110  
 10 Arg Lys Thr Ser Ser Asp Asp Glu Ser Glu Glu Asp Glu Asp Asp Leu  
 115 120 125  
 Leu Gln Arg Thr Gly Asn Phe Ile Ser Thr Ser Thr Ser Leu Pro Arg  
 130 135 140  
 15 Gly Ile Leu Lys Met Lys Asn Cys Gln His Ala Asn Ala Glu Arg Pro  
 145 150 155 160  
 20 Thr Val Ala Arg Ile Ser Ile Cys Ala Val Pro Ser Arg Cys Thr Asp  
 165 170 175  
 Cys Asp Gly Cys  
 180  
 25

(2) INFORMATION FOR SEQ ID NO: 739:

30 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 218 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 739:  
 35 Leu Lys Glu Lys Ile Val Arg Ser Phe Glu Val Ser Pro Asp Gly Ser  
 1 5 10 15  
 40 Phe Leu Leu Ile Asn Gly Ile Ala Gly Tyr Leu His Leu Leu Ala Met  
 20 25 30  
 Lys Thr Lys Glu Leu Ile Gly Ser Met Lys Ile Asn Gly Arg Val Ala  
 35 40 45  
 45 Ala Ser Thr Phe Ser Ser Asp Ser Lys Lys Val Tyr Ala Ser Ser Gly  
 50 55 60  
 50 Asp Gly Glu Val Tyr Val Trp Asp Val Asn Ser Arg Lys Cys Leu Asn  
 65 70 75 80  
 Arg Phe Val Asp Glu Gly Ser Leu Tyr Gly Leu Ser Ile Ala Thr Ser  
 85 90 95  
 55 Arg Asn Gly Gln Tyr Val Ala Cys Gly Ser Asn Cys Gly Val Val Asn  
 100 105 110  
 Ile Tyr Asn Gln Asp Ser Cys Leu Gln Glu Thr Asn Pro Lys Pro Ile  
 115 120 125  
 60 Lys Ala Ile Met Asn Leu Val Thr Gly Val Thr Ser Leu Thr Phe Asn

723

130 135 140

Pro Thr Thr Glu Ile Leu Ala Ile Ala Ser Glu Lys Met Lys Glu Ala  
145 150 155 160

5 Val Arg Leu Val His Leu Pro Ser Cys Thr Val Phe Ser Asn Phe Pro  
165 170 175

10 Val Ile Lys Asn Lys Asn Ile Ser His Val His Thr Met Asp Phe Ser  
180 185 190

Pro Arg Ser Gly Tyr Phe Ala Leu Gly Asn Glu Lys Gly Lys Ala Leu  
195 200 205

15 Met Tyr Arg Leu His His Tyr Ser Asp Phe  
210 215

20 (2) INFORMATION FOR SEQ ID NO: 740:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 167 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear

25 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 740:

Lys Ile Asn Gly Arg Val Ala Ala Ser Thr Phe Ser Ser Asp Ser Lys  
1 5 10 15

30 Lys Val Tyr Ala Ser Ser Gly Asp Gly Glu Val Tyr Val Trp Asp Val  
20 25 30

35 Asn Ser Arg Lys Cys Leu Asn Arg Phe Val Asp Glu Gly Ser Leu Tyr  
35 40 45

Gly Leu Ser Ile Ala Thr Ser Arg Asn Gly Gln Tyr Val Ala Cys Gly  
50 55 60

40 Ser Asn Cys Gly Val Val Asn Ile Tyr Asn Gln Asp Ser Cys Leu Gln  
65 70 75 80

Glu Thr Asn Pro Lys Pro Ile Lys Ala Ile Met Asn Leu Val Thr Gly  
85 90 95

45 Val Thr Ser Leu Thr Phe Asn Pro Thr Thr Glu Ile Leu Ala Ile Ala  
100 105 110

50 Ser Glu Lys Met Lys Glu Ala Val Arg Leu Val His Leu Pro Ser Cys  
115 120 125

Thr Val Phe Ser Asn Phe Pro Val Ile Lys Asn Lys Asn Ile Ser His  
130 135 140

55 Val His Thr Met Asp Phe Ser Pro Arg Ser Gly Tyr Phe Ala Leu Gly  
145 150 155 160

Asn Glu Lys Gly Lys Ala Leu  
165

60

## (2) INFORMATION FOR SEQ ID NO: 741:

## 5 (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 246 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## 10 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 741:

Met Arg Ile Leu Gln Leu Ile Leu Leu Ala Leu Ala Thr Gly Leu Val  
 1 5 10 15  
 Gly Gly Glu Thr Arg Ile Ile Lys Gly Phe Glu Cys Lys Leu His Ser  
 20 25 30  
 Gln Pro Trp Gln Ala Ala Leu Phe Glu Lys Thr Arg Leu Leu Cys Gly  
 35 40 45  
 Ala Thr Leu Ile Ala Pro Arg Trp Leu Leu Thr Ala Ala His Cys Leu  
 50 55 60  
 Lys Pro Arg Tyr Ile Val His Leu Gly Gln His Asn Leu Gln Lys Glu  
 65 70 75 80  
 Glu Gly Cys Glu Gln Thr Arg Thr Ala Thr Glu Ser Phe Pro His Pro  
 85 90 95  
 Gly Phe Asn Asn Ser Leu Pro Asn Lys Asp His Arg Asn Asp Ile Met  
 100 105 110  
 Leu Val Lys Met Ala Ser Pro Val Ser Ile Thr Trp Ala Val Arg Pro  
 115 120 125  
 Leu Thr Leu Ser Ser Arg Cys Val Thr Ala Gly Thr Ser Cys Ser Phe  
 130 135 140  
 Pro Ala Gly Ala Ala Arg Pro Asp Pro Ser Tyr Ala Cys Leu Thr Pro  
 145 150 155 160  
 Cys Asp Ala Pro Thr Ser Pro Ser Leu Ser Thr Arg Ser Val Arg Thr  
 165 170 175  
 Pro Thr Pro Ala Thr Ser Gln Thr Pro Trp Cys Val Pro Ala Cys Arg  
 180 185 190  
 Lys Gly Ala Arg Thr Pro Ala Arg Val Thr Pro Gly Ala Leu Trp Ser  
 195 200 205  
 Val Thr Ser Leu Phe Lys Ala Leu Ser Pro Gly Ala Arg Ile Arg Val  
 210 215 220  
 Arg Ser Pro Glu Ser Leu Val Ser Thr Arg Lys Ser Ala Asn Met Trp  
 225 230 235 240  
 Thr Gly Ser Arg Arg Arg  
 245

60

725

## (2) INFORMATION FOR SEQ ID NO: 742:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 228 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 742:

5  
 10 Glu Thr Arg Ile Ile Lys Gly Phe Glu Cys Lys Leu His Ser Gln Pro  
 1 5 10 15  
 Trp Gln Ala Ala Leu Phe Glu Lys Thr Arg Leu Leu Cys Gly Ala Thr  
 20 25 30  
 15 Leu Ile Ala Pro Arg Trp Leu Leu Thr Ala Ala His Cys Leu Lys Pro  
 35 40 45  
 20 Arg Tyr Ile Val His Leu Gly Gln His Asn Leu Gln Lys Glu Glu Gly  
 50 55 60  
 Cys Glu Gln Thr Arg Thr Ala Thr Glu Ser Phe Pro His Pro Gly Phe  
 65 70 75 80  
 25 Asn Asn Ser Leu Pro Asn Lys Asp His Arg Asn Asp Ile Met Leu Val  
 85 90 95  
 Lys Met Ala Ser Pro Val Ser Ile Thr Trp Ala Val Arg Pro Leu Thr  
 100 105 110  
 30 Leu Ser Ser Arg Cys Val Thr Ala Gly Thr Ser Cys Ser Phe Pro Ala  
 115 120 125  
 Gly Ala Ala Arg Pro Asp Pro Ser Tyr Ala Cys Leu Thr Pro Cys Asp  
 130 135 140  
 35 Ala Pro Thr Ser Pro Ser Leu Ser Thr Arg Ser Val Arg Thr Pro Thr  
 145 150 155 160  
 40 Pro Ala Thr Ser Gln Thr Pro Trp Cys Val Pro Ala Cys Arg Lys Gly  
 165 170 175  
 Ala Arg Thr Pro Ala Arg Val Thr Pro Gly Ala Leu Trp Ser Val Thr  
 180 185 190  
 45 Ser Leu Phe Lys Ala Leu Ser Pro Gly Ala Arg Ile Arg Val Arg Ser  
 195 200 205  
 Pro Glu Ser Leu Val Ser Thr Arg Lys Ser Ala Asn Met Trp Thr Gly  
 210 215 220  
 50 Ser Arg Arg Arg  
 225

## (2) INFORMATION FOR SEQ ID NO: 743:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 74 amino acids

(B) TYPE: amino acid

726

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 743:

5 Cys Lys Leu His Ser Gln Pro Trp Gln Ala Ala Leu Phe Glu Lys Thr  
 1 5 10 15

Arg Leu Leu Cys Gly Ala Thr Leu Ile Ala Pro Arg Trp Leu Leu Thr  
 20 25 30

10 Ala Ala His Cys Leu Lys Pro Arg Tyr Ile Val His Leu Gly Gln His  
 35 40 45

Asn Leu Gln Lys Glu Glu Gly Cys Glu Gln Thr Arg Thr Ala Thr Glu  
 50 55 60

15 Ser Phe Pro His Pro Gly Phe Asn Asn Ser  
 65 70

20

(2) INFORMATION FOR SEQ ID NO: 744:

(i) SEQUENCE CHARACTERISTICS:

25 (A) LENGTH: 81 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 744:

30 Val Leu Gln Gly Arg Tyr Phe Ser Pro Ile Leu Glu Met Arg Arg Leu  
 1 5 10 15

Arg Pro Glu Gly Xaa Xaa Asn Leu Pro Gly Gly Ser Arg Ala Gln Lys  
 20 25 30

35 Glu Pro Arg Gln Asp Leu Thr Leu Val Leu Trp Pro His Cys Pro His  
 35 40 45

Phe Ala Met Thr Arg Ser Tyr Val Pro Thr Lys Gln Cys Met Val Gln  
 50 55 60

40 Gly Ser Phe Tyr Cys Ile Phe Ile Phe Lys Gly Pro Val Gln Asn Trp  
 65 70 75 80

45 Cys

50

(2) INFORMATION FOR SEQ ID NO: 745:

(i) SEQUENCE CHARACTERISTICS:

55 (A) LENGTH: 211 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 745:

Met Pro Ile Ile Asp Gln Val Asn Pro Glu Leu His Asp Phe Met Gln  
 1 5 10 15

60 Ser Ala Glu Val Gly Thr Ile Phe Ala Leu Ser Trp Leu Ile Thr Trp

727

22                      25                      30  
 Phe Gly His Val Leu Ser Asp Phe Arg His Val Val Arg Leu Tyr Asp  
                     35                      40                      45  
 5 Phe Phe Leu Ala Cys His Pro Leu Met Pro Ile Tyr Phe Ala Ala Val  
                     50                      55                      60  
 10 Ile Val Leu Tyr Arg Glu Gln Glu Val Leu Asp Cys Asp Cys Asp Met  
                     65                      70                      75                      80  
 Ala Ser Val His His Leu Leu Ser Gln Ile Pro Gln Asp Leu Pro Tyr  
                     85                      90                      95  
 15 Glu Thr Leu Ile Ser Arg Xaa Gln Thr Phe Leu Phe Ser Phe Pro His  
                     100                      105                      110  
 Pro Asn Leu Leu Gly Arg Pro Leu Pro Asn Ser Lys Leu Arg Gly Arg  
                     115                      120                      125  
 20 Gln Pro Leu Leu Ser Lys Thr Leu Ser Trp His Gln Pro Ser Arg Gly  
                     130                      135                      140  
 25 Leu Ile Trp Cys Cys Gly Ser Gly Xaa Arg Gly Leu Leu Arg Pro Glu  
                     145                      150                      155                      160  
 Asp Arg Thr Lys Asp Val Leu Thr Lys Pro Arg Thr Asn Arg Phe Val  
                     165                      170                      175  
 30 Lys Leu Ala Val Met Gly Leu Thr Val Ala Leu Gly Ala Ala Ala Leu  
                     180                      185                      190  
 Ala Val Val Lys Ser Ala Leu Glu Trp Ala Pro Lys Phe Gln Leu Gln  
                     195                      200                      205  
 35 Leu Phe Pro  
                     210

40

(2) INFORMATION FOR SEQ ID NO: 746:

(1) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 70 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 746:

45

50 Cys Pro Glu Phe Phe Ile Pro Ala Thr Leu Pro Cys Pro Phe Val Phe  
                     1                      5                      10                      15  
 Ala Phe Thr Ser Glu Ala Ser Ser Arg Ala Tyr Leu Thr Gln Arg Gly  
                     20                      25                      30  
 55 Pro Gly Gly Leu Ala Gln Asn Leu Met Pro Leu Pro Val Gly Phe Trp  
                     35                      40                      45  
 Met Gly Ser Leu Pro Pro Pro Trp Cys Trp Arg Lys Trp Val Ser Glu  
                     50                      55                      60  
 60

Ala Cys Ser Cys Phe Cys  
65 70

5

(2) INFORMATION FOR SEQ ID NO: 747:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

10

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 747:

15 Gly Phe Gly Ser Val Ser Ala Ala Gly Arg Arg Ser Gly Gly Thr Trp  
1 5 10 15

Gln Pro Val Gln  
20

20

(2) INFORMATION FOR SEQ ID NO: 748:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 16 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

25

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 748:

30 Pro Gly Gly Leu Ala Val Gly Ser Arg Trp Trp Ser Arg Ser Leu Thr  
1 5 10 15

35

(2) INFORMATION FOR SEQ ID NO: 749:

40

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 30 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 749:

45

Leu Glu Pro Ser Arg Gln Arg Arg Pro Arg Arg Arg Gly Gly Thr Ser  
1 5 10 15

50

Arg Pro Glu Thr Asp Gln Arg Ala Lys Cys Trp Arg Gln Leu  
20 25 30

55

(2) INFORMATION FOR SEQ ID NO: 750:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 11 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

60

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 750:



Val Cys Leu Arg Cys Gln Asn Arg Met Glu Asn  
 1 5 10

5

(2) INFORMATION FOR SEQ ID NO: 751:

(i) SEQUENCE CHARACTERISTICS:

10

(A) LENGTH: 367 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 751:

15

Met Ala Ala Cys Thr Ala Arg Arg Pro Gly Arg Gly Gln Pro Leu Val  
 1 5 10 15

Val Pro Val Ala Asp Xaa Gly Pro Val Ala Lys Ala Ala Leu Cys Ala  
 20 25 30

20

Ala Xaa Ala Gly Ala Phe Ser Pro Ala Ser Thr Thr Thr Thr Arg Arg  
 35 40 45

25

His Leu Ser Ser Arg Asn Arg Pro Glu Gly Lys Val Leu Glu Thr Val  
 50 55 60

Gly Val Phe Glu Val Pro Lys Gln Asn Gly Lys Tyr Glu Thr Gly Gln  
 65 70 75 80

30

Leu Phe Leu His Ser Ile Phe Gly Tyr Arg Gly Val Val Leu Phe Pro  
 85 90 95

Trp Gln Ala Arg Leu Xaa Asp Arg Asp Val Ala Ser Ala Ala Pro Glu  
 100 105 110

35

Lys Ala Glu Asn Pro Ala Gly His Gly Ser Lys Glu Val Lys Gly Lys  
 115 120 125

40

Thr His Thr Tyr Tyr Gln Val Leu Ile Asp Ala Arg Asp Cys Pro His  
 130 135 140

Ile Ser Gln Arg Ser Gln Thr Glu Ala Val Thr Phe Leu Ala Asn His  
 145 150 155 160

45

Asp Asp Ser Arg Ala Leu Tyr Ala Ile Pro Gly Leu Asp Tyr Val Ser  
 165 170 175

His Glu Asp Ile Leu Pro Tyr Thr Ser Thr Asp Gln Val Pro Ile Gln  
 180 185 190

50

His Glu Leu Phe Glu Arg Phe Leu Leu Tyr Asp Gln Thr Lys Ala Pro  
 195 200 205

55

Pro Phe Val Ala Arg Glu Thr Leu Arg Ala Trp Gln Glu Lys Asn His  
 210 215 220

Pro Trp Leu Glu Leu Ser Asp Val His Arg Glu Thr Thr Glu Asn Ile  
 225 230 235 240

60

Arg Val Thr Val Ile Pro Phe Tyr Met Gly Met Arg Glu Ala Gln Asn

730

245 250 255

Ser His Val Tyr Trp Trp Arg Tyr Cys Ile Arg Leu Glu Asn Leu Asp  
260 265 270

5 Ser Asp Val Val Gln Leu Arg Glu Arg His Trp Arg Ile Phe Ser Leu  
275 280 285

10 Ser Gly Thr Leu Glu Thr Val Arg Gly Arg Gly Val Val Gly Arg Glu  
290 295 300

Pro Val Leu Ser Lys Glu Gln Pro Ala Phe Gln Tyr Ser Ser His Val  
305 310 315 320

15 Ser Leu Gln Ala Ser Ser Gly His Met Trp Gly Thr Phe Arg Phe Glu  
325 330 335

Arg Pro Asp Gly Ser His Phe Asp Val Arg Ile Pro Pro Phe Ser Leu  
340 345 350

20 Glu Ser Asn Lys Asp Glu Lys Thr Pro Pro Ser Gly Leu His Trp  
355 360 365

25

(2) INFORMATION FOR SEQ ID NO: 752:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 33 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 752:

30

35 Met Ala Ala Cys Thr Ala Arg Arg Pro Gly Arg Gly Gln Pro Leu Val  
1 5 10 15

Val Pro Val Ala Asp Xaa Gly Pro Val Ala Lys Ala Ala Leu Cys Ala  
20 25 30

40 Ala

45

(2) INFORMATION FOR SEQ ID NO: 753:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 33 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 753:

50

55 Met Ala Ala Cys Thr Ala Arg Arg Pro Gly Arg Gly Gln Pro Leu Val  
1 5 10 15

Val Pro Val Ala Asp Xaa Gly Pro Val Ala Lys Ala Ala Leu Cys Ala  
20 25 30

60 Ala

731

(2) INFORMATION FOR SEQ ID NO: 754:

5

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 33 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

10

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 754:

Met Ala Ala Cys Thr Ala Arg Arg Pro Gly Arg Gly Gln Pro Leu Val  
1 5 10 15

15 Val Pro Val Ala Asp Xaa Gly Pro Val Ala Lys Ala Ala Leu Cys Ala  
20 25 30

Ala

20

(2) INFORMATION FOR SEQ ID NO: 755:

25

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 33 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 755:

30

Met Ala Ala Cys Thr Ala Arg Arg Pro Gly Arg Gly Gln Pro Leu Val  
1 5 10 15

35 Val Pro Val Ala Asp Xaa Gly Pro Val Ala Lys Ala Ala Leu Cys Ala  
20 25 30

Ala

40

(2) INFORMATION FOR SEQ ID NO: 756:

45

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 33 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 756:

50

Met Ala Ala Cys Thr Ala Arg Arg Pro Gly Arg Gly Gln Pro Leu Val  
1 5 10 15

Val Pro Val Ala Asp Xaa Gly Pro Val Ala Lys Ala Ala Leu Cys Ala  
20 25 30

55

Ala

60

732

## (2) INFORMATION FOR SEQ ID NO: 757:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 35 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 757:

5 Val Leu Glu Thr Val Gly Val Phe Glu Val Pro Lys Gln Asn Gly Lys  
 10 1 5 10 15  
 Tyr Glu Thr Gly Gln Leu Phe Leu His Ser Ile Phe Gly Tyr Arg Gly  
 20 25 30  
 15 Val Val Leu  
 35

## 20 (2) INFORMATION FOR SEQ ID NO: 758:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 16 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 758:

25 Gly Leu Asp Tyr Val Ser His Glu Asp Ile Leu Pro Tyr Thr Ser Thr  
 30 1 5 10 15

## 35 (2) INFORMATION FOR SEQ ID NO: 759:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 19 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 759:

40 Asp Val His Arg Glu Thr Thr Glu Asn Ile Arg Val Thr Val Ile Pro  
 45 1 5 10 15  
 Phe Tyr Met

## 50 (2) INFORMATION FOR SEQ ID NO: 760:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 21 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 760:

55 Trp Trp Arg Tyr Cys Ile Arg Leu Glu Asn Leu Asp Ser Asp Val Val  
 60

733

1                      5                      10                      15  
 Gln Leu Arg Glu Arg  
                     20

5

(2) INFORMATION FOR SEQ ID NO: 761:

10

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 26 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 761:

15

Pro Ala Phe Gln Tyr Ser Ser His Val Ser Leu Gln Ala Ser Ser Gly  
   1                      5                      10                      15

20

His Met Trp Gly Thr Phe Arg Phe Glu Arg  
                     20                      25

(2) INFORMATION FOR SEQ ID NO: 762:

25

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 11 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 762:

30

Ser Leu Cys Cys Pro Glu Gly Ala Glu Gly Cys  
   1                      5                      10

35

(2) INFORMATION FOR SEQ ID NO: 763:

40

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 12 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 763:

45

Gln Leu Lys Lys Thr His Tyr Asp Arg Pro Cys Pro  
   1                      5                      10

50

(2) INFORMATION FOR SEQ ID NO: 764:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 12 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 764:

55

Gln Leu Lys Lys Thr His Tyr Asp Arg Pro Cys Pro  
   1                      5                      10

60

734

## (2) INFORMATION FOR SEQ ID NO: 765:

5

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 170 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 765:

10

Ala Gln Arg Lys Lys Glu Met Val Leu Ser Glu Lys Val Ser Gln Leu  
 1 5 10 15

15

Met Glu Trp Thr Asn Lys Arg Pro Val Ile Arg Met Asn Gly Asp Lys  
 20 25 30

Phe Arg Arg Leu Val Lys Ala Pro Pro Arg Asn Tyr Ser Val Ile Val  
 35 40 45

20

Met Phe Thr Ala Leu Gln Leu His Arg Gln Cys Val Val Cys Lys Gln  
 50 55 60

25

Ala Asp Glu Glu Phe Gln Ile Leu Ala Asn Ser Trp Arg Tyr Ser Ser  
 65 70 75 80

Ala Phe Thr Asn Arg Ile Phe Phe Ala Met Val Asp Phe Asp Glu Gly  
 85 90 95

30

Ser Asp Val Phe Gln Met Leu Asn Met Asn Ser Ala Pro Thr Phe Ile  
 100 105 110

Asn Phe Pro Ala Lys Gly Lys Pro Lys Arg Gly Asp Thr Tyr Glu Leu  
 115 120 125

35

Gln Val Arg Gly Phe Ser Ala Glu Gln Ile Ala Arg Trp Ile Ala Asp  
 130 135 140

Arg Thr Asp Val Asn Ile Arg Val Ile Arg Pro Pro Asn Met Ala Ala  
 145 150 155 160

40

Arg Trp Arg Phe Trp Cys Val Ser Val Thr  
 165 170

45

## (2) INFORMATION FOR SEQ ID NO: 766:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 15 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 766:

50

Met Val Val Ala Leu Leu Ile Val Cys Asp Val Pro Ser Ala Ser  
 1 5 10 15

55

## (2) INFORMATION FOR SEQ ID NO: 767:

60

735

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 16 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

5 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 767:

Ala Gln Arg Lys Lys Glu Met Val Leu Ser Glu Lys Val Ser Gln Leu  
 1 5 10 15

10

15 (2) INFORMATION FOR SEQ ID NO: 768:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 17 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

20 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 768:

Met Glu Trp Thr Asn Lys Arg Pro Val Ile Arg Met Asn Gly Asp Lys  
 1 5 10 15

25

Phe

30

(2) INFORMATION FOR SEQ ID NO: 769:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 56 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

35 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 769:

Arg Arg Leu Val Lys Ala Pro Pro Arg Asn Tyr Ser Val Ile Val Met  
 1 5 10 15

40

Phe Thr Ala Leu Gln Leu His Arg Gln Cys Val Val Cys Lys Gln Ala  
 20 25 30

45 Asp Glu Glu Phe Gln Ile Leu Ala Asn Ser Trp Arg Tyr Ser Ser Ala  
 35 40 45

Phe Thr Asn Arg Ile Phe Phe Ala  
 50 55

50

(2) INFORMATION FOR SEQ ID NO: 770:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 31 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

55 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 770:

60

736

Met Val Asp Phe Asp Glu Gly Ser Asp Val Phe Gln Met Leu Asn Met  
 1 5 10 15

5 Asn Ser Ala Pro Thr Phe Ile Asn Phe Pro Ala Lys Gly Lys Pro  
 20 25 30

(2) INFORMATION FOR SEQ ID NO: 771:

10

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 37 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

15

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 771:

Lys Arg Gly Asp Thr Tyr Glu Leu Gln Val Arg Gly Phe Ser Ala Glu  
 1 5 10 15

20 Gln Ile Ala Arg Trp Ile Ala Asp Arg Thr Asp Val Asn Ile Arg Val  
 20 25 30

Ile Arg Pro Pro Asn  
 35

25

(2) INFORMATION FOR SEQ ID NO: 772:

30

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 44 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

35

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 772:

Tyr Ala Gly Pro Leu Met Leu Gly Leu Leu Ala Val Ile Gly Gly  
 1 5 10 15

40 Leu Val Tyr Leu Arg Arg Val Ile Trp Asn Phe Ser Leu Ile Lys Leu  
 20 25 30

Asp Gly Leu Leu Gln Leu Cys Val Leu Cys Leu Leu  
 35 40

45

(2) INFORMATION FOR SEQ ID NO: 773:

50

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 17 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 773:

55 Asp Ala Val Phe Lys Gly Phe Ser Asp Cys Leu Leu Lys Leu Gly Asp  
 1 5 10 15

Ser

60



## (2) INFORMATION FOR SEQ ID NO: 774:

5

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 774:

10

Cys Gln Glu Gly Ala Lys Asp Met Trp Asp Lys Leu Arg Lys Glu Ser  
 1 5 10 15

15

Lys Asn Leu Asn  
 20

## (2) INFORMATION FOR SEQ ID NO: 775:

20

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 16 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

25

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 775:

Val Leu Leu Val Ser Leu Ser Ala Ala Leu Ala Thr Trp Leu Ser Phe  
 1 5 10 15

30

35

## (2) INFORMATION FOR SEQ ID NO: 776:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 48 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

40

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 776:

Met Gly Leu Lys Leu Asn Gly Arg Tyr Ile Ser Leu Ile Leu Ala Val  
 1 5 10 15

45

Gln Ile Ala Tyr Leu Val Gln Ala Val Arg Ala Ala Gly Lys Cys Asp  
 20 25 30

50

Ala Val Phe Lys Gly Phe Ser Asp Cys Leu Leu Lys Leu Gly Asp Ser  
 35 40 45

55

## (2) INFORMATION FOR SEQ ID NO: 777:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 90 amino acids

60

738

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 777:

5 Pro Ala Ala Trp Asp Asp Lys Thr Asn Ile Lys Thr Val Cys Thr Tyr  
 1 5 10 15

Trp Glu Asp Phe His Ser Cys Thr Val Thr Ala Leu Thr Asp Cys Gln  
 20 25 30

10 Glu Gly Ala Lys Asp Met Trp Asp Lys Leu Arg Lys Glu Ser Lys Asn  
 35 40 45

Leu Asn Ile Gln Gly Ser Leu Phe Glu Leu Cys Gly Ser Gly Asn Gly  
 15 50 55 60

Ala Ala Gly Ser Leu Leu Pro Ala Phe Pro Val Leu Leu Val Ser Leu  
 65 70 75 80

20 Ser Ala Ala Leu Ala Thr Trp Leu Ser Phe  
 85 90

25 (2) INFORMATION FOR SEQ ID NO: 778:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 143 amino acids

(B) TYPE: amino acid

30 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 778:

Met Gly Leu Lys Leu Asn Gly Arg Tyr Ile Ser Leu Ile Leu Ala Val  
 1 5 10 15

35 Gln Ile Ala Tyr Leu Val Gln Ala Val Arg Ala Ala Gly Lys Cys Asp  
 20 25 30

Ala Val Phe Lys Gly Phe Ser Asp Cys Leu Leu Lys Leu Gly Asp Ser  
 40 35 40 45

Xaa Xaa Xaa Xaa Xaa Pro Ala Ala Trp Asp Asp Lys Thr Asn Ile Lys  
 50 55 60

45 Thr Val Cys Thr Tyr Trp Glu Asp Phe His Ser Cys Thr Val Thr Ala  
 65 70 75 80

Leu Thr Asp Cys Gln Glu Gly Ala Lys Asp Met Trp Asp Lys Leu Arg  
 85 90 95

50 Lys Glu Ser Lys Asn Leu Asn Ile Gln Gly Ser Leu Phe Glu Leu Cys  
 100 105 110

Gly Ser Gly Asn Gly Ala Ala Gly Ser Leu Leu Pro Ala Phe Pro Val  
 55 115 120 125

Leu Leu Val Ser Leu Ser Ala Ala Leu Ala Thr Trp Leu Ser Phe  
 130 135 140

60

739

(2) INFORMATION FOR SEQ ID NO: 779:

- 5 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 34 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 779:

10 Met Asn Ser Ala Ala Gly Phe Ser His Leu Asp Arg Arg Glu Arg Val  
 1 5 10 15  
 Leu Lys Leu Gly Glu Ser Phe Glu Lys Gln Pro Arg Cys Ala Ser Thr  
 20 25 30  
 15 Leu Cys

20

(2) INFORMATION FOR SEQ ID NO: 780:

- 25 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 28 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 780:

30 Thr Ile Tyr Pro Thr Glu Glu Glu Leu Gln Ala Val Gln Lys Ile Val  
 1 5 10 15  
 Ser Ile Thr Glu Arg Ala Leu Lys Leu Val Ser Asp  
 20 25

35

(2) INFORMATION FOR SEQ ID NO: 781:

- 40 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 30 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 781:

45 Arg Ala Leu Lys Gly Val Leu Arg Val Gly Val Leu Ala Lys Gly Leu  
 1 5 10 15  
 Leu Leu Arg Gly Asp Arg Asn Val Asn Leu Val Leu Leu Cys  
 20 25 30

50

(2) INFORMATION FOR SEQ ID NO: 782:

- 55 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 39 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 782:

60

740

Ala Leu Ala Ala Leu Arg His Ala Lys Trp Phe Gln Ala Arg Ala Asn  
 1 5 10 15

5 Gly Leu Gln Ser Cys Val Ile Ile Ile Arg Ile Leu Arg Asp Leu Cys  
 20 25 30

Gln Arg Val Pro Thr Trp Ser  
 35

10

(2) INFORMATION FOR SEQ ID NO: 783:

15 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 17 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 783:

20 Gly Asp Ala Leu Arg Arg Val Phe Glu Cys Ile Ser Ser Gly Ile Ile  
 1 5 10 15

Leu

25

(2) INFORMATION FOR SEQ ID NO: 784:

30 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 16 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 784:

35

Leu Ala Phe Arg Gln Ile His Lys Val Leu Gly Met Asp Pro Leu Pro  
 1 5 10 15

40

(2) INFORMATION FOR SEQ ID NO: 785:

45

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 342 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

50 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 785:

Thr Ile Tyr Pro Thr Glu Glu Glu Leu Gln Ala Val Gln Lys Ile Val  
 1 5 10 15

55 Ser Ile Thr Glu Arg Ala Leu Lys Leu Val Ser Asp Ser Leu Ser Glu  
 20 25 30

His Glu Lys Asn Lys Asn Lys Glu Gly Asp Asp Lys Lys Glu Gly Gly  
 35 40 45

60

741

Lys Asp Arg Ala Leu Lys Gly Val Leu Arg Val Gly Val Leu Ala Lys  
 50 55 60

5 Gly Leu Leu Leu Arg Gly Asp Arg Asn Val Asn Leu Val Leu Leu Cys  
 65 70 75 80

Ser Glu Lys Pro Ser Lys Thr Leu Leu Ser Arg Ile Ala Glu Asn Leu  
 85 90 95

10 Pro Lys Gln Leu Ala Val Ile Ser Pro Glu Lys Tyr Asp Ile Lys Cys  
 100 105 110

Ala Val Ser Glu Ala Ala Ile Ile Leu Asn Ser Cys Val Glu Pro Lys  
 115 120 125

15 Met Gln Val Thr Ile Thr Leu Thr Ser Pro Ile Ile Arg Glu Glu Asn  
 130 135 140

Met Arg Glu Gly Asp Val Thr Ser Gly Met Val Lys Asp Pro Pro Asp  
 145 150 155 160

Val Leu Asp Arg Gln Lys Cys Leu Asp Ala Leu Ala Ala Leu Arg His  
 165 170 175

25 Ala Lys Trp Phe Gln Ala Arg Ala Asn Gly Leu Gln Ser Cys Val Ile  
 180 185 190

Ile Ile Arg Ile Leu Arg Asp Leu Cys Gln Arg Val Pro Thr Trp Ser  
 195 200 205

30 Asp Phe Pro Ser Trp Ala Met Glu Leu Leu Val Glu Lys Ala Ile Ser  
 210 215 220

Ser Ala Ser Ser Pro Gln Ser Pro Gly Asp Ala Leu Arg Arg Val Phe  
 225 230 235 240

Glu Cys Ile Ser Ser Gly Ile Ile Leu Lys Gly Ser Pro Gly Leu Leu  
 245 250 255

40 Asp Pro Cys Glu Lys Asp Pro Phe Asp Thr Leu Ala Thr Met Thr Asp  
 260 265 270

Gln Gln Arg Glu Asp Ile Thr Ser Ser Ala Gln Phe Ala Leu Arg Leu  
 275 280 285

45 Leu Ala Phe Arg Gln Ile His Lys Val Leu Gly Met Asp Pro Leu Pro  
 290 295 300

Gln Met Ser Gln Arg Phe Asn Ile His Asn Asn Arg Lys Arg Arg Arg  
 305 310 315 320

Asp Ser Asp Gly Val Asp Gly Phe Glu Ala Glu Gly Lys Lys Asp Lys  
 325 330 335

55 Lys Asp Tyr Asp Asn Phe  
 340

60 (2) INFORMATION FOR SEQ ID NO: 786:

742

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 24 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 786:

Met Gly Ser Gln His Ser Ala Ala Ala Arg Pro Ser Ser Cys Arg Arg  
 1 5 10 15

Lys Gln Glu Asp Asp Arg Asp Gly  
 20

## (2) INFORMATION FOR SEQ ID NO: 787:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 30 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 787:

Leu Leu Ala Glu Arg Glu Gln Glu Glu Ala Ile Ala Gln Phe Pro Tyr  
 1 5 10 15

Val Glu Phe Thr Gly Arg Asp Ser Ile Thr Cys Leu Thr Cys  
 20 25 30

## (2) INFORMATION FOR SEQ ID NO: 788:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 34 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 788:

Gln Gly Thr Gly Tyr Ile Pro Thr Glu Gln Val Asn Glu Leu Val Ala  
 1 5 10 15

Leu Ile Pro His Ser Asp Gln Arg Leu Arg Pro Gln Arg Thr Lys Gln  
 20 25 30

Tyr Val

## (2) INFORMATION FOR SEQ ID NO: 789:

## (i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 55 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 789:

Ala Arg Leu Asn Val Gly Arg Glu Ser Leu Lys Arg Glu Met Leu Lys  
 1 5 10 15

743

Ser Gln Gly Val Lys Val Ser Glu Ser Pro Met Gly Ala Arg His Ser  
 20 25 30

5 Ser Trp Pro Glu Gly Ala Ala Phe Cys Lys Lys Val Gln Gly Ala Gln  
 35 40 45

Met Gln Phe Pro Pro Arg Arg  
 50 55

10

(2) INFORMATION FOR SEQ ID NO: 790:

15

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 15 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 790:

20

Ala Arg Leu Asn Val Gly Arg Glu Ser Leu Lys Arg Glu Met Leu  
 1 5 10 15

25

(2) INFORMATION FOR SEQ ID NO: 791:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 791:

30

Leu Lys Ser Gln Gly Val Lys Val Ser Glu Ser Pro Met Gly Ala Arg  
 35 1 5 10 15

His Ser Ser Trp  
 20

40

(2) INFORMATION FOR SEQ ID NO: 792:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 17 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 792:

45

50 Ala Phe Cys Lys Lys Val Gln Gly Ala Gln Met Gln Phe Pro Pro Arg  
 1 5 10 15

Arg

55

(2) INFORMATION FOR SEQ ID NO: 793:

60

(i) SEQUENCE CHARACTERISTICS:

744

(A) LENGTH: 17 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 793:

5

Ala Phe Cys Lys Lys Val Gln Gly Ala Gln Met Gln Phe Pro Pro Arg  
 1 5 10 15

Arg

10

(2) INFORMATION FOR SEQ ID NO: 794:

15

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 37 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

20

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 794:

Val Gln Val Leu Glu Gln Leu Thr Asn Asn Ala Val Ala Glu Ser Arg  
 1 5 10 15

25

Phe Asn Asp Ala Ala Tyr Tyr Tyr Trp Met Leu Ser Met Gln Cys Leu  
 20 25 30

Asp Ile Ala Gln Asp  
 35

30

(2) INFORMATION FOR SEQ ID NO: 795:

35

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 34 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 795:

40

Pro Ala Gln Lys Asp Thr Met Leu Gly Lys Phe Tyr His Phe Gln Arg  
 1 5 10 15

45

Leu Ala Glu Leu Tyr His Gly Tyr His Ala Ile His Arg His Thr Glu  
 20 25 30

Asp Pro

50

(2) INFORMATION FOR SEQ ID NO: 796:

55

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 27 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 796:

60

Leu Ala Lys Gln Ser Lys Ala Leu Gly Ala Tyr Arg Leu Ala Arg His



745

1                    5                    10                    15

Ala Tyr Asp Lys Leu Arg Gly Leu Tyr Ile Pro  
                   20                    25

5

(2) INFORMATION FOR SEQ ID NO: 797:

10            (i) SEQUENCE CHARACTERISTICS:  
                   (A) LENGTH: 36 amino acids  
                   (B) TYPE: amino acid  
                   (D) TOPOLOGY: linear  
           (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 797:

15            Ala Arg Phe Gln Lys Ser Ile Glu Leu Gly Thr Leu Thr Ile Arg Ala  
                   1                    5                    10                    15

20            Lys Pro Phe His Asp Ser Glu Glu Leu Val Pro Leu Cys Tyr Arg Cys  
                   20                    25                    30

                  Ser Thr Asn Asn  
                   35

25

(2) INFORMATION FOR SEQ ID NO: 798:

30            (i) SEQUENCE CHARACTERISTICS:  
                   (A) LENGTH: 73 amino acids  
                   (B) TYPE: amino acid  
                   (D) TOPOLOGY: linear  
           (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 798:

35            Pro Leu Leu Asn Asn Leu Gly Asn Val Cys Ile Asn Cys Arg Gln Pro  
                   1                    5                    10                    15

                  Phe Ile Phe Ser Ala Ser Ser Tyr Asp Val Leu His Leu Val Glu Phe  
                   20                    25                    30

40            Tyr Leu Glu Glu Gly Ile Thr Asp Glu Glu Ala Ile Ser Leu Ile Asp  
                   35                    40                    45

45            Leu Glu Val Leu Arg Pro Lys Arg Asp Asp Arg Gln Leu Glu Ile Cys  
                   50                    55                    60

                  Lys Gln Gln Leu Pro Asp Ser Cys Gly  
                   65                    70

50

(2) INFORMATION FOR SEQ ID NO: 799:

55            (i) SEQUENCE CHARACTERISTICS:  
                   (A) LENGTH: 29 amino acids  
                   (B) TYPE: amino acid  
                   (D) TOPOLOGY: linear  
           (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 799:

60            Met Pro Tyr Ala Gln Trp Leu Ala Glu Asn Asp Arg Phe Glu Glu Ala

746

1 5 10 15

Gln Lys Ala Phe His Lys Ala Gly Arg Gln Arg Glu Ala  
20 25

5

(2) INFORMATION FOR SEQ ID NO: 800:

10

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 36 amino acids

(B) TYPE: amino acid

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 800:

15

Phe Ser Val His Arg Pro Glu Thr Leu Phe Asn Ile Ser Arg Phe Leu  
1 5 10 15

20

Leu His Ser Leu Pro Lys Asp Thr Pro Ser Gly Ile Ser Lys Val Lys  
20 25 30

Ile Leu Phe Thr  
35

25

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

A. The indications made below relate to the microorganism referred to in the description on page <u>161</u> , line <u>N/A</u>	
B. IDENTIFICATION OF DEPOSIT <span style="float: right;">Further deposits are identified on an additional sheet</span>	
Name of depositary institution <p style="text-align: center;">American Type Culture Collection</p>	
Address of depositary institution (including postal code and country) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America	
Date of deposit <u>March 27, 1997</u>	Accession Number <u>97979</u>
C. ADDITIONAL INDICATIONS (leave blank if not applicable) <span style="float: right;">This information is continued on an additional sheet</span>	
D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (if the indications are not for all designated States)	
E. SEPARATE FURNISHING OF INDICATIONS (leave blank if not applicable)	
The indications listed below will be submitted to the International Bureau later (specify the general nature of the indications, e.g., "Accession Number of Deposit")	
<p>For receiving Office use only</p> <div style="border: 1px solid black; padding: 5px;"><input checked="" type="checkbox"/> This sheet was received with the international application by <u>Michael Smith</u> Patent Specialist PCT Section</div> <div style="border: 1px solid black; padding: 5px;">Authorized officer <p style="text-align: center;">04 JUN 1998</p></div>	<p>For International Bureau use only</p> <div style="border: 1px solid black; padding: 5px;"><input type="checkbox"/> This sheet was received by the International Bureau on:</div> <div style="border: 1px solid black; padding: 5px;">Authorized officer</div>

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

A. The indications made below relate to the microorganism referred to in the description on page <u>162</u> , line <u>N/A</u>	
B. IDENTIFICATION OF DEPOSIT <span style="float: right;">Further deposits are identified on an additional sheet <u>---</u></span>	
Name of depositary institution <p style="text-align: center;">American Type Culture Collection</p>	
Address of depositary institution (including postal code and country) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America	
Date of deposit <u>April 4, 1997</u>	Accession Number <u>97974</u>
C. ADDITIONAL INDICATIONS (leave blank if not applicable) <span style="float: right;">This information is continued on an additional sheet <u>---</u></span>	
D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (if the indications are not for all designated States)	
E. SEPARATE FURNISHING OF INDICATIONS (leave blank if not applicable)	
The indications listed below will be submitted to the International Bureau later (specify the general nature of the indications. e.g., "Accession Number of Deposit")	
<div style="border: 1px solid black; padding: 5px;"><div style="text-align: right; font-weight: bold;">For receiving Office use only</div><div style="display: flex; align-items: center; margin-top: 10px;"><input checked="" type="checkbox"/> This sheet was received with the international application <div style="margin-left: 10px; text-align: center; font-size: small;">Specialist PCT Operations</div></div><div style="border-top: 1px solid black; margin-top: 10px;">Authorized officer <span style="float: right;">33</span></div></div>	<div style="border: 1px solid black; padding: 5px;"><div style="text-align: right; font-weight: bold;">For International Bureau use only</div><div style="display: flex; align-items: center; margin-top: 10px;"><input type="checkbox"/> This sheet was received by the International Bureau on:</div><div style="border-top: 1px solid black; margin-top: 10px;">Authorized officer</div></div>

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

A. The indications made below relate to the microorganism referred to in the description on page <u>162</u> , line <u>N/A</u>	
<b>B. IDENTIFICATION OF DEPOSIT</b> Further deposits are identified on an additional sheet <input type="checkbox"/>	
Name of depositary institution <div style="text-align: center;">American Type Culture Collection</div>	
Address of depositary institution (including postal code and country) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America	
Date of deposit    May 29, 1997	Accession Number    209080
<b>C. ADDITIONAL INDICATIONS</b> (leave blank if not applicable) This information is continued on an additional sheet <input type="checkbox"/>	
<b>D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE</b> (if the indications are not for all designated States)	
<b>E. SEPARATE FURNISHING OF INDICATIONS</b> (leave blank if not applicable)	
The indications listed below will be submitted to the International Bureau later (specify the general nature of the indications. e.g., "Accession Number of Deposit")	

<div style="text-align: center; border-bottom: 1px solid black; margin-bottom: 5px;">For receiving Office use only</div> <div style="padding: 5px;"><input checked="" type="checkbox"/> This sheet was received with the international application Patent Specialist PCT-PCT Divisions Tel: (303) 556-6747</div> <div style="border-top: 1px solid black; padding: 5px;">Authorized officer</div>	<div style="text-align: center; border-bottom: 1px solid black; margin-bottom: 5px;">For International Bureau use only</div> <div style="padding: 5px;"><input type="checkbox"/> This sheet was received by the International Bureau on:</div> <div style="border-top: 1px solid black; padding: 5px;">Authorized officer</div>
---	---

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

A. The indications made below relate to the microorganism referred to in the description on page <u>164</u> , line <u>N/A</u>	
B. IDENTIFICATION OF DEPOSIT Further deposits are identified on an additional sheet	
Name of depositary institution American Type Culture Collection	
Address of depositary institution (including postal code and country) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America	
Date of deposit December 3, 1997	Accession Number 209511
C. ADDITIONAL INDICATIONS (leave blank if not applicable) This information is continued on an additional sheet	
D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (if the indications are not for all designated States)	
E. SEPARATE FURNISHING OF INDICATIONS (leave blank if not applicable)	
The indications listed below will be submitted to the International Bureau later (specify the general nature of the indications, e.g., "Accession Number of Deposit")	

<b>For receiving Office use only</b>	<b>For International Bureau use only</b>
<input checked="" type="checkbox"/> This sheet was received with the international application G. Anton Smith Paternal Specialist IPED, PCT Operations (703) 505-3747	<input type="checkbox"/> This sheet was received by the International Bureau on:
Authorized officer	Authorized officer
04 JUN 1998	

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

<b>A.</b> The indications made below relate to the microorganism referred to in the description on page <u>167</u> . line <u>N/A</u>	
<b>B. IDENTIFICATION OF DEPOSIT</b> <span style="float: right;">Further deposits are identified on an additional sheet <input type="checkbox"/></span>	
Name of depositary institution <div style="text-align: center;">American Type Culture Collection</div>	
Address of depositary institution (including postal code and country) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America	
Date of deposit    April 4, 1997	Accession Number    97975
<b>C. ADDITIONAL INDICATIONS</b> (leave blank if not applicable) <span style="float: right;">This information is continued on an additional sheet <input type="checkbox"/></span>	
<b>D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE</b> (if the indications are not for all designated States)	
<b>E. SEPARATE FURNISHING OF INDICATIONS</b> (leave blank if not applicable)	
The indications listed below will be submitted to the International Bureau later (specify the general nature of the indications. e.g., "Accession Number of Deposit")	

  

<div style="text-align: center; border-bottom: 1px solid black; margin-bottom: 5px;">For receiving Office use only</div> <div style="padding: 5px;"><input checked="" type="checkbox"/> This sheet was received with the international application</div> <div style="padding: 5px;">Authorized officer</div> <div style="text-align: center; font-size: 1.2em; margin-top: 10px;">04 JUN 1998</div>	<div style="text-align: center; border-bottom: 1px solid black; margin-bottom: 5px;">For International Bureau use only</div> <div style="padding: 5px;"><input type="checkbox"/> This sheet was received by the International Bureau on:</div> <div style="padding: 5px;">Authorized officer</div>
---	--

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

A. The indications made below relate to the microorganism referred to in the description on page <u>167</u> , line <u>N/A</u>	
B. IDENTIFICATION OF DEPOSIT <span style="float: right;">Further deposits are identified on an additional sheet <input type="checkbox"/></span>	
Name of depositary institution <p style="text-align: center;">American Type Culture Collection</p>	
Address of depositary institution (including postal code and country) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America	
Date of deposit <u>May 29, 1997</u>	Accession Number <u>209081</u>
C. ADDITIONAL INDICATIONS (leave blank if not applicable) <span style="float: right;">This information is continued on an additional sheet <input type="checkbox"/></span>	
D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (if the indications are not for all designated States)	
E. SEPARATE FURNISHING OF INDICATIONS (leave blank if not applicable)	
The indications listed below will be submitted to the International Bureau later (specify the general nature of the indications, e.g., "Accession Number of Deposit")	
<p>For receiving Office use only</p> <div style="border: 1px solid black; padding: 5px;"><input checked="" type="checkbox"/> This sheet was received with the international application <p style="text-align: center;">RECEIVED JUN 4 1998 PCT/US98/11422 SOCIALIST</p></div> <div style="border: 1px solid black; padding: 5px;">Authorized officer <p style="text-align: center;">04 JUN 1998</p></div>	<p>For International Bureau use only</p> <div style="border: 1px solid black; padding: 5px;"><input type="checkbox"/> This sheet was received by the International Bureau on:</div> <div style="border: 1px solid black; padding: 5px;">Authorized officer</div>



## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

<b>A.</b> The indications made below relate to the microorganism referred to in the description on page <u>171</u> , line <u>N/A</u>	
<b>B. IDENTIFICATION OF DEPOSIT</b> Further deposits are identified on an additional sheet <input type="checkbox"/>	
Name of depositary institution <div style="text-align: center;">American Type Culture Collection</div>	
Address of depositary institution (including postal code and country) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America	
Date of deposit April 4, 1997	Accession Number 97976
<b>C. ADDITIONAL INDICATIONS</b> (leave blank if not applicable) This information is continued on an additional sheet <input type="checkbox"/>	
<b>D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE</b> (if the indications are not for all designated States)	
<b>E. SEPARATE FURNISHING OF INDICATIONS</b> (leave blank if not applicable)	
The indications listed below will be submitted to the International Bureau later (specify the general nature of the indications, e.g., "Accession Number of Deposit")	

<div style="text-align: center; border-bottom: 1px solid black; margin-bottom: 5px;">For receiving Office use only</div> <div style="padding: 5px;"><input checked="checked" type="checkbox"/> This sheet was received with the international application of the <b>inventor</b> by the <b>receiving Office</b></div> <div style="padding: 5px;">Authorized officer <div style="text-align: center; font-weight: bold; font-size: 1.2em;">04 JUN 1998</div></div>	<div style="text-align: center; border-bottom: 1px solid black; margin-bottom: 5px;">For International Bureau use only</div> <div style="padding: 5px;"><input type="checkbox"/> This sheet was received by the International Bureau on:</div> <div style="padding: 5px;">Authorized officer</div>
---	--

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

A. The indications made below relate to the microorganism referred to in the description on page <u>172</u> , line <u>N/A</u>	
B. IDENTIFICATION OF DEPOSIT <span style="float: right;">Further deposits are identified on an additional sheet <input type="checkbox"/></span>	
Name of depositary institution <p style="text-align: center;">American Type Culture Collection</p>	
Address of depositary institution (including postal code and country) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America	
Date of deposit <u>April 4, 1997</u>	Accession Number <u>97977</u>
C. ADDITIONAL INDICATIONS (leave blank if not applicable) <span style="float: right;">This information is continued on an additional sheet <input type="checkbox"/></span>	
D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (if the indications are not for all designated States)	
E. SEPARATE FURNISHING OF INDICATIONS (leave blank if not applicable)	
The indications listed below will be submitted to the International Bureau later (specify the general nature of the indications, e.g., "Accession Number of Deposit")	
<p>For receiving Office use only</p> <div style="border: 1px solid black; padding: 5px;"><input checked="" type="checkbox"/> This sheet was received with the international application <p style="text-align: center;">Elizabeth Smith Patent Specialist USPTO Operations</p></div> <div style="border: 1px solid black; padding: 5px;">Authorized officer <p style="text-align: center;">04 JUN 1998</p></div>	<p>For International Bureau use only</p> <div style="border: 1px solid black; padding: 5px;"><input type="checkbox"/> This sheet was received by the International Bureau on:</div> <div style="border: 1px solid black; padding: 5px;">Authorized officer</div>

### INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

**(PCT Rule 13*bis*)**

<b>A. The indications made below relate to the microorganism referred to in the description</b> on page <u>172</u> , line <u>N/A</u>	
<b>B. IDENTIFICATION OF DEPOSIT</b>	
Further deposits are identified on an additional sheet <u>      </u>	
Name of depositary institution <div style="text-align: center;">American Type Culture Collection</div>	
Address of depositary institution (including postal code and country) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America	
Date of deposit    May 29, 1997	Accession Number    209082
<b>C. ADDITIONAL INDICATIONS</b> (leave blank if not applicable)    This information is continued on an additional sheet <u>      </u>	
<b>D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE</b> (If the indications are not for all designated States)	
<b>E. SEPARATE FURNISHING OF INDICATIONS</b> (leave blank if not applicable)	
The indications listed below will be submitted to the International Bureau later (specify the general nature of the indications, e.g., "Accession Number of Deposit")	
<b>For receiving Office use only</b> <input checked="" type="checkbox"/> This sheet was received with the international application <div style="text-align: center;">             International Specialist              International Relations           </div>	<b>For International Bureau use only</b> <input type="checkbox"/> This sheet was received by the International Bureau on:
Authorized officer <div style="font-size: 1.5em; font-weight: bold;">04 JUN 1998</div>	Authorized officer

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

A. The indications made below relate to the microorganism referred to in the description on page <u>176</u> , line <u>N/A</u>	
B. IDENTIFICATION OF DEPOSIT Further deposits are identified on an additional sheet <input type="checkbox"/>	
Name of depositary institution American Type Culture Collection	
Address of depositary institution (including postal code and country) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America	
Date of deposit April 28, 1997	Accession Number 209007
C. ADDITIONAL INDICATIONS (leave blank if not applicable) This information is continued on an additional sheet <input type="checkbox"/>	
D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (if the indications are not for all designated States)	
E. SEPARATE FURNISHING OF INDICATIONS (leave blank if not applicable)	
The indications listed below will be submitted to the International Bureau later (specify the general nature of the indications, e.g., "Accession Number of Deposit")	

<b>For receiving Office use only</b> <input checked="" type="checkbox"/> This sheet was received with the international application Authorized officer 04 JUN 1998	<b>For International Bureau use only</b> <input type="checkbox"/> This sheet was received by the International Bureau on: Authorized officer
---	--

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

<b>A.</b> The indications made below relate to the microorganism referred to in the description on page <u>176</u> , line <u>N/A</u>	
<b>B. IDENTIFICATION OF DEPOSIT</b> Further deposits are identified on an additional sheet <input type="checkbox"/>	
Name of depositary institution <div style="text-align: center;">American Type Culture Collection</div>	
Address of depositary institution (including postal code and country) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America	
Date of deposit    May 29, 1997	Accession Number    209083
<b>C. ADDITIONAL INDICATIONS</b> (leave blank if not applicable) This information is continued on an additional sheet <input type="checkbox"/>	
<b>D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE</b> (if the indications are not for all designated States)	
<b>E. SEPARATE FURNISHING OF INDICATIONS</b> (leave blank if not applicable)	
The indications listed below will be submitted to the International Bureau later (specify the general nature of the indications, e.g., "Accession Number of Deposit")	

<div style="text-align: center; border-bottom: 1px solid black; margin-bottom: 5px;">For receiving Office use only</div> <div style="padding: 5px;"><input type="checkbox"/> This sheet was received with the international application by <u>Patent Specialist</u> Operations Authorized officer <u>1780, 108-1747</u> <div style="font-size: 1.2em; font-weight: bold; margin-top: 10px;">04 JUN 1998</div></div>	<div style="text-align: center; border-bottom: 1px solid black; margin-bottom: 5px;">For International Bureau use only</div> <div style="padding: 5px;"><input type="checkbox"/> This sheet was received by the International Bureau on:  Authorized officer</div>
---	--

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

<b>A.</b> The indications made below relate to the microorganism referred to in the description on page <u>179</u> , line <u>N/A</u>	
<b>B. IDENTIFICATION OF DEPOSIT</b> Further deposits are identified on an additional sheet <input type="checkbox"/>	
Name of depositary institution <div style="text-align: center;">American Type Culture Collection</div>	
Address of depositary institution (including postal code and country) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America	
Date of deposit    April 28, 1997	Accession Number    209008
<b>C. ADDITIONAL INDICATIONS</b> (leave blank if not applicable) This information is continued on an additional sheet <input type="checkbox"/>	
<b>D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE</b> (if the indications are not for all designated States)	
<b>E. SEPARATE FURNISHING OF INDICATIONS</b> (leave blank if not applicable)	
The indications listed below will be submitted to the International Bureau later (specify the general nature of the indications. e.g., "Accession Number of Deposit")	

<div style="text-align: right; border-bottom: 1px solid black; margin-bottom: 5px;">For receiving Office use only</div> <div style="padding: 5px;"><input type="checkbox"/> This sheet was received with the international application</div> <div style="border-top: 1px solid black; padding: 5px;">Authorized officer <div style="text-align: center; margin-top: 20px;">298</div></div>	<div style="text-align: right; border-bottom: 1px solid black; margin-bottom: 5px;">For International Bureau use only</div> <div style="padding: 5px;"><input type="checkbox"/> This sheet was received by the International Bureau on:</div> <div style="border-top: 1px solid black; padding: 5px;">Authorized officer</div>
--	--

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

A. The indications made below relate to the microorganism referred to in the description on page <u>179</u> , line <u>N/A</u>	
B. IDENTIFICATION OF DEPOSIT <span style="float: right;">Further deposits are identified on an additional sheet <u>---</u></span>	
Name of depositary institution <p style="text-align: center;">American Type Culture Collection</p>	
Address of depositary institution (including postal code and country) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America	
Date of deposit <u>May 29, 1997</u>	Accession Number <u>209084</u>
C. ADDITIONAL INDICATIONS (leave blank if not applicable) <span style="float: right;">This information is continued on an additional sheet <u>---</u></span>	
D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (if the indications are not for all designated States)	
E. SEPARATE FURNISHING OF INDICATIONS (leave blank if not applicable)	
The indications listed below will be submitted to the International Bureau later (specify the general nature of the indications. e.g., "Accession Number of Deposit")	

<p style="text-align: center;">For receiving Office use only</p> <div style="border: 1px solid black; padding: 5px;"><input type="checkbox"/> This sheet was received with the international application Specialist Operations</div> <div style="border: 1px solid black; padding: 5px;">Authorized officer <p style="font-size: 1.2em; margin-top: 10px;">04 JUN 1998</p></div>	<p style="text-align: center;">For International Bureau use only</p> <div style="border: 1px solid black; padding: 5px;"><input type="checkbox"/> This sheet was received by the International Bureau on:</div> <div style="border: 1px solid black; padding: 5px;">Authorized officer</div>
--	--

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

A. The indications made below relate to the microorganism referred to in the description on page <u>180</u> , line <u>N/A</u>	
<b>B. IDENTIFICATION OF DEPOSIT</b> <span style="float: right;">Further deposits are identified on an additional sheet <input type="checkbox"/></span>	
Name of depositary institution <div style="text-align: center;">American Type Culture Collection</div>	
Address of depositary institution (including postal code and country) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America	
Date of deposit    April 28, 1997	Accession Number    209010
<b>C. ADDITIONAL INDICATIONS</b> (leave blank if not applicable) <span style="float: right;">This information is continued on an additional sheet <input type="checkbox"/></span>	
<b>D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE</b> (if the indications are not for all designated States)	
<b>E. SEPARATE FURNISHING OF INDICATIONS</b> (leave blank if not applicable)	
The indications listed below will be submitted to the International Bureau later (specify the general nature of the indications. e.g., "Accession Number of Deposit")	

  

<div style="text-align: center;">For receiving Office use only</div> <div style="padding: 10px;"><input type="checkbox"/> This sheet was received with the international application</div> <div style="border-top: 1px solid black; padding-top: 5px;">Authorized officer <div style="text-align: center;">APR 29 1998</div></div>	<div style="text-align: center;">For International Bureau use only</div> <div style="padding: 10px;"><input type="checkbox"/> This sheet was received by the International Bureau on:</div> <div style="border-top: 1px solid black; padding-top: 5px;">Authorized officer</div>
--	--



## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

<b>A.</b> The indications made below relate to the microorganism referred to in the description on page <u>180</u> , line <u>N/A</u>	
<b>B. IDENTIFICATION OF DEPOSIT</b> Further deposits are identified on an additional sheet <input type="checkbox"/>	
Name of depositary institution <u>American Type Culture Collection</u>	
Address of depositary institution (including postal code and country) <u>10801 University Boulevard</u> <u>Manassas, Virginia 20110-2209</u> <u>United States of America</u>	
Date of deposit <u>May 29, 1997</u>	Accession Number <u>209085</u>
<b>C. ADDITIONAL INDICATIONS</b> (leave blank if not applicable) This information is continued on an additional sheet <input type="checkbox"/>	
<b>D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE</b> (if the indications are not for all designated States)	
<b>E. SEPARATE FURNISHING OF INDICATIONS</b> (leave blank if not applicable)	
The indications listed below will be submitted to the International Bureau later (specify the general nature of the indications, e.g., "Accession Number of Deposit")          	
<b>For receiving Office use only</b>  <input type="checkbox"/> This sheet was received with the international application <u>Application No. 08/000,000</u> <u>International</u> <u>Operations</u>  Authorized officer <u>04 JUN 1998</u>	<b>For International Bureau use only</b>  <input type="checkbox"/> This sheet was received by the International Bureau on:  Authorized officer

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

<b>A.</b> The indications made below relate to the microorganism referred to in the description on page <u>182</u> , line <u>N/A</u>	
<b>B. IDENTIFICATION OF DEPOSIT</b> Further deposits are identified on an additional sheet <input type="checkbox"/>	
Name of depositary institution <div style="text-align: center;">American Type Culture Collection</div>	
Address of depositary institution (including postal code and country) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America	
Date of deposit April 28, 1997	Accession Number 209009
<b>C. ADDITIONAL INDICATIONS</b> (leave blank if not applicable) This information is continued on an additional sheet <input type="checkbox"/>	
<b>D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE</b> (if the indications are not for all designated States)	
<b>E. SEPARATE FURNISHING OF INDICATIONS</b> (leave blank if not applicable)	
The indications listed below will be submitted to the International Bureau later (specify the general nature of the indications, e.g., "Accession Number of Deposit")	

<div style="text-align: center;">For receiving Office use only</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"><input type="checkbox"/> This sheet was received with the international application</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">Authorized officer</div>	<div style="text-align: center;">For International Bureau use only</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"><input type="checkbox"/> This sheet was received by the International Bureau on:</div> <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">Authorized officer</div>
---	--

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

<b>A.</b> The indications made below relate to the microorganism referred to in the description on page <u>186</u> , line <u>N/A</u>	
<b>B. IDENTIFICATION OF DEPOSIT</b> Further deposits are identified on an additional sheet <input type="checkbox"/>	
Name of depositary institution <p style="text-align: center;">American Type Culture Collection</p>	
Address of depositary institution (including postal code and country) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America	
Date of deposit April 28, 1997	Accession Number 209011
<b>C. ADDITIONAL INDICATIONS</b> (leave blank if not applicable) This information is continued on an additional sheet <input type="checkbox"/>	
<b>D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE</b> (if the indications are not for all designated States)	
<b>E. SEPARATE FURNISHING OF INDICATIONS</b> (leave blank if not applicable)	
The indications listed below will be submitted to the International Bureau later (specify the general nature of the indications, e.g., "Accession Number of Deposit")          	
<b>For receiving Office use only</b>	<b>For International Bureau use only</b>
<input checked="" type="checkbox"/> This sheet was received with the international application by the Specialist IPO-PCT Operations	<input type="checkbox"/> This sheet was received by the International Bureau on:
Authorized officer 04 JUN 1998	Authorized officer

## INDICATIONS RELATING TO A DEPOSITED MICROORGANISM

(PCT Rule 13bis)

<b>A.</b> The indications made below relate to the microorganism referred to in the description on page <u>174</u> , line <u>N/A</u>	
<b>B. IDENTIFICATION OF DEPOSIT</b> Further deposits are identified on an additional sheet <input type="checkbox"/>	
Name of depositary institution <div style="text-align: center;">American Type Culture Collection</div>	
Address of depositary institution (including postal code and country) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America	
Date of deposit    April 7, 1998	Accession Number    209746
<b>C. ADDITIONAL INDICATIONS</b> (leave blank if not applicable) This information is continued on an additional sheet <input type="checkbox"/>	
<b>D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE</b> (If the indications are not for all designated States)	
<b>E. SEPARATE FURNISHING OF INDICATIONS</b> (leave blank if not applicable)	
The indications listed below will be submitted to the International Bureau later (specify the general nature of the indications, e.g., "Accession Number of Deposit")	

<div style="text-align: center; border-bottom: 1px solid black; margin-bottom: 5px;">For receiving Office use only</div> <div style="padding: 5px;"><input checked="" type="checkbox"/> This sheet was received with the international application</div> <div style="padding: 5px;">Authorized officer <div style="font-size: 1.2em; margin-top: 10px;">64 JUN 1998</div></div>	<div style="text-align: center; border-bottom: 1px solid black; margin-bottom: 5px;">For International Bureau use only</div> <div style="padding: 5px;"><input type="checkbox"/> This sheet was received by the International Bureau on:</div> <div style="padding: 5px;">Authorized officer</div>
---	--

***What Is Claimed Is:***

1. An isolated nucleic acid molecule comprising a polynucleotide having a nucleotide sequence at least 95% identical to a sequence selected from the group consisting of:

(a) a polynucleotide fragment of SEQ ID NO:X or a polynucleotide fragment of the cDNA sequence included in ATCC Deposit No:Z, which is hybridizable to SEQ ID NO:X;

(b) a polynucleotide encoding a polypeptide fragment of SEQ ID NO:Y or a polypeptide fragment encoded by the cDNA sequence included in ATCC Deposit No:Z, which is hybridizable to SEQ ID NO:X;

(c) a polynucleotide encoding a polypeptide domain of SEQ ID NO:Y or a polypeptide domain encoded by the cDNA sequence included in ATCC Deposit No:Z, which is hybridizable to SEQ ID NO:X;

(d) a polynucleotide encoding a polypeptide epitope of SEQ ID NO:Y or a polypeptide epitope encoded by the cDNA sequence included in ATCC Deposit No:Z, which is hybridizable to SEQ ID NO:X;

(e) a polynucleotide encoding a polypeptide of SEQ ID NO:Y or the cDNA sequence included in ATCC Deposit No:Z, which is hybridizable to SEQ ID NO:X, having biological activity;

(f) a polynucleotide which is a variant of SEQ ID NO:X;

(g) a polynucleotide which is an allelic variant of SEQ ID NO:X;

(h) a polynucleotide which encodes a species homologue of the SEQ ID NO:Y;

(i) a polynucleotide capable of hybridizing under stringent conditions to any one of the polynucleotides specified in (a)-(h), wherein said polynucleotide does not hybridize under stringent conditions to a nucleic acid molecule having a nucleotide sequence of only A residues or of only T residues.

2. The isolated nucleic acid molecule of claim 1, wherein the polynucleotide fragment comprises a nucleotide sequence encoding a secreted protein.

3. The isolated nucleic acid molecule of claim 1, wherein the polynucleotide fragment comprises a nucleotide sequence encoding the sequence identified as SEQ ID NO:Y or the polypeptide encoded by the cDNA sequence included in ATCC Deposit No:Z, which is hybridizable to SEQ ID NO:X.

4. The isolated nucleic acid molecule of claim 1, wherein the polynucleotide fragment comprises the entire nucleotide sequence of SEQ ID NO:X or the cDNA sequence included in ATCC Deposit No:Z, which is hybridizable to SEQ ID NO:X.

5. The isolated nucleic acid molecule of claim 2, wherein the nucleotide sequence comprises sequential nucleotide deletions from either the C-terminus or the N-terminus.

6. The isolated nucleic acid molecule of claim 3, wherein the nucleotide sequence comprises sequential nucleotide deletions from either the C-terminus or the N-terminus.

7. A recombinant vector comprising the isolated nucleic acid molecule of claim 1.

8. A method of making a recombinant host cell comprising the isolated nucleic acid molecule of claim 1.

9. A recombinant host cell produced by the method of claim 8.

10. The recombinant host cell of claim 9 comprising vector sequences.

11. An isolated polypeptide comprising an amino acid sequence at least 95% identical to a sequence selected from the group consisting of:

(a) a polypeptide fragment of SEQ ID NO:Y or the encoded sequence included in ATCC Deposit No:Z;

(b) a polypeptide fragment of SEQ ID NO:Y or the encoded sequence included in ATCC Deposit No:Z, having biological activity;

(c) a polypeptide domain of SEQ ID NO:Y or the encoded sequence included in ATCC Deposit No:Z;

(d) a polypeptide epitope of SEQ ID NO:Y or the encoded sequence included in ATCC Deposit No:Z;

(e) a secreted form of SEQ ID NO:Y or the encoded sequence included in ATCC Deposit No:Z;

(f) a full length protein of SEQ ID NO:Y or the encoded sequence included in ATCC Deposit No:Z;

- (g) a variant of SEQ ID NO:Y;
- (h) an allelic variant of SEQ ID NO:Y; or
- (i) a species homologue of the SEQ ID NO:Y.

12. The isolated polypeptide of claim 11, wherein the secreted form or the full length protein comprises sequential amino acid deletions from either the C-terminus or the N-terminus.

13. An isolated antibody that binds specifically to the isolated polypeptide of claim 11.

14. A recombinant host cell that expresses the isolated polypeptide of claim 11.

15. A method of making an isolated polypeptide comprising:  
(a) culturing the recombinant host cell of claim 14 under conditions such that said polypeptide is expressed; and  
(b) recovering said polypeptide.

16. The polypeptide produced by claim 15.

17. A method for preventing, treating, or ameliorating a medical condition, comprising administering to a mammalian subject a therapeutically effective amount of the polypeptide of claim 11 or the polynucleotide of claim 1.

18. A method of diagnosing a pathological condition or a susceptibility to a pathological condition in a subject comprising:  
(a) determining the presence or absence of a mutation in the polynucleotide of claim 1; and  
(b) diagnosing a pathological condition or a susceptibility to a pathological condition based on the presence or absence of said mutation.

19. A method of diagnosing a pathological condition or a susceptibility to a pathological condition in a subject comprising:  
(a) determining the presence or amount of expression of the polypeptide of claim 11 in a biological sample; and  
(b) diagnosing a pathological condition or a susceptibility to a pathological condition based on the presence or amount of expression of the polypeptide.

20. A method for identifying a binding partner to the polypeptide of claim 11 comprising:

- (a) contacting the polypeptide of claim 11 with a binding partner; and
- (b) determining whether the binding partner effects an activity of the polypeptide.

21. The gene corresponding to the cDNA sequence of SEQ ID NO:Y.

22. A method of identifying an activity in a biological assay, wherein the method comprises:

- (a) expressing SEQ ID NO:X in a cell;
- (b) isolating the supernatant;
- (c) detecting an activity in a biological assay; and
- (d) identifying the protein in the supernatant having the activity.

23. The product produced by the method of claim 22.



# PATENT COOPERATION TREATY

## PCT

### DECLARATION OF NON-ESTABLISHMENT OF INTERNATIONAL SEARCH REPORT

(PCT Article 17(2)(a) and Rule 39)

Applicant's or agent's file reference <b>PZ007PCT</b>	<b>IMPORTANT DECLARATION</b>	Date of mailing (day/month/year) <b>14 OCT 1998</b>
International application No. <b>PCT/US98/11422</b>	International filing date (day/month/year) <b>04 JUNE 1998</b>	(Earliest) Priority Date (day/month/year) <b>06 JUNE 1997</b>
International Patent Classification (IPC) or both national classification and IPC Please See Continuation Sheet.		
Applicant <b>HUMAN GENOME SCIENCES, INC.</b>		

This International Searching Authority hereby declares, according to Article 17(2)(a), that no international search report will be established on the international application for the reasons indicated below.

1. ☐ The subject matter of the international application relates to:
  - a. ☐ scientific theories.
  - b. ☐ mathematical theories.
  - c. ☐ plant varieties.
  - d. ☐ animal varieties.
  - e. ☐ essentially biological processes for the production of plants and animals, other than microbiological processes and the products of such processes.
  - f. ☐ schemes, rules or methods of doing business.
  - g. ☐ schemes, rules or methods of performing purely mental acts.
  - h. ☐ schemes, rules or methods of playing games.
  - i. ☐ methods for treatment of the human body by surgery or therapy.
  - j. ☐ methods for treatment of the animal body by surgery or therapy.
  - k. ☐ diagnostic methods practiced on the human or animal body.
  - l. ☐ mere presentations of information.
  - m. ☐ computer programs for which this International Searching Authority is not equipped to search prior art.
2. ☐ The failure of the following parts of the international application to comply with prescribed requirements prevents a meaningful search from being carried out:
 

☐ the description
 ☐ the claims
 ☐ the drawings
3. ☒ The failure of the nucleotide and/or amino acid sequence listing to comply with the prescribed requirements prevents a meaningful search from being carried out:
 

☒ it does not comply with the prescribed standard  
☒ it is not in the prescribed machine readable form
4. Further comments:  
Please See Continuation Sheet.

Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer  BRIAN R. STANTON
Facsimile No. (703) 305-3230	Telephone No. (703) 308-0196

**DECLARATION OF NON-ESTABLISHMENT OF  
INTERNATIONAL SEARCH REPORT**

International application No.  
PCT/US98/11422

The International Patent Classification (IPC) or National Classification and IPC are as listed below:

IPC(6): A01N 37/18, 43/04; C12Q 1/00, 1/02, 1/68; C12N 5/00, 5/06, 15/00, 15/06, 15/09, 15/10, 15/11; G01N 33/53

US CL.: 435, 4, 7.1, 69.1, 70.1, 71.1, 172.3, 243, 320.1, 325, 410; 514/2, 44; 530/350, 387.1

**4. Further Comments (Continued):**

Applicant has not responded to the invitation to pay additional fees mailed on 04 August 1998. Therefore, the search would be conducted on the first appearing invention which includes claims 1-10, 14, and 15 in so far as these claims are drawn to the first ten (10) appearing nucleotide sequences. However, no meaningful search could be carried out on these sequences because the CRF that was received for this case on 15 June 1998 was technically defective and could not be used to conduct a search of the prior art.